Time for transformation: supporting community health workers on the path to gender equity

Thesis submitted in accordance with the requirements of the University of Liverpool for the degree of Doctor in Philosophy

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Photos: Top: Arminda, APE with mothers from her community Manhiça, Mozambique
Bottom: Meskerem and Tezeru, HEWs in Sidama zone, Ethiopia. (R. Steege)

Abstract

Community Health Workers (CHWs) are increasingly relied upon to supplement human resources for health shortages in low-and middle-income countries. CHWs occupy a unique interface position between communities and the health system and are able to reach the most marginalised communities. Unlike other cadres, they do not operate out of an institutional space, but instead operate within the gendered boundaries of their communities. The literature review conducted as part of this thesis demonstrates the multiple ways gender norms and relations interact with broader contextual factors and other axes of inequity to impact the working lives of CHWs. Yet these 'software' considerations are not reflected in policies which establish and guide CHW programming.

This thesis aims to answer the following research question: *How do gender norms and relations shape both CHWs' working lives, and how do CHW policies and guidelines play out across differing contexts?* A new framework is presented which demonstrates how gender roles and relations impact CHWs' working lives across various levels from the individual, to community and health systems. The thesis then uses mixed qualitative interview techniques to understand the processes of CHW policy making at a national and international level (via key informant interviews, n=11) and to what degree gender is considered within the development process. Finally, the thesis explores how different policies play out within two distinct country settings – Mozambique and Ethiopia. In Mozambique qualitative techniques (IDIs, n=31 and FGDs, n=3) are employed with CHWs, their supervisors, community leaders and key informants to explore the gendered implications of policies relating to the recruitment and retention of CHWs. Further, it investigates how gender roles and relations affect livelihood negotiations for male and female CHWs. In Ethiopia qualitative techniques (IDIs, n=19 and FGDs, n=8) are employed with CHWs, their supervisors and community leaders to unearth the gendered impact of new guidelines surrounding the use of mobile phone technology (mHealth). The findings are analysed against a gender framework to discuss how gender equitable the mHealth intervention is for the all-female cadre of CHWs.

This thesis finds that although gender roles and relations impact the working lives of CHWs - gender is not considered comprehensively in CHW human resource policies. This may be in

part because context-relevant evidence, tools and guidance on how to encourage gender equitable CHW programming and policies are lacking. This is compounded by a lack of national sex-disaggregated data on CHWs, high levels of fragmentation of policy actors and limited input from gender experts and departments. The policy making process is not a simple one and is inherently shaped by power relations. This complexity is mirrored in how CHW policies play out on the ground – existing gendered power dynamics limit female CHW's choices over their livelihoods in Mozambique, and in Ethiopia, new gendered power dynamics were created among HEWs with access to mHealth. The findings demonstrate that CHW policies and guidelines do not exist in a vacuum but are mediated and shaped by gender relations and other contextual factors that operate across individual, household, community and institutional levels. The findings also provide a base for concrete suggestions for gender equitable CHW policy making, which are presented in the discussion.

People working within the health system should reflect on its role as a gendered institution, aiming to transform gender inequities from within. This is critical at the community health system level, which is increasingly relied upon to reach marginalised communities. The time is ripe to enact policy change to ensure CHW programming is more gender equitable and responds effectively to the differing needs of the men and women who serve as CHWs – the sector's critical link for the provision of health promotion and disease prevention services. This in turn, will encourage gender transformation on a broader scale and help CHWs feel supported and valued in order to best serve the needs of their communities.

Declaration

I, Rosalind Joanna Steege, declare that the work in this thesis is my own under the supervision of Sally Theobald and Miriam Taegtmeyer. At no previous time was this work submitted for a degree or qualification.

Where information has been derived from other sources, or where co-authors have inputted to published papers, this has been indicated in the thesis.

Rosalind Joanna Steege

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List of Acronyms

ASHA – Accredited Social Health Activist (India)

APEs – Agentes Elementares Polivalentes (Mozambique)

BRAC – Bangladesh Rural Advancement Committee

CHW – Community Health Worker

CHEW – Community Health Extension Worker

CTC – Close to Community

FGDs – Focus Group Discussions

GDP – Gross domestic product

HIV – Human Immunodeficiency Virus

HDA – Health Development Army

HEP – Health Extension Programme

HEW – Health Extension Worker (Ethiopia)

HMIS – Health Management Information System

HRH – Human Resources for Health

IDIs – In-depth Discussions

IDRC – International Development Research Centre

KIIs – Key Informant Interviews

LHW – Lady Health Worker (Pakistan)

LMICs – Low- and Middle- Income Countries

LSTM – Liverpool School of Tropical Medicine

MCH – Maternal and Child Health

MeSH – Medical Subject Headings

MoH – Ministry of Health

NGO – Non-Governmental Organisation

PAHO – Pan American Health Organisation

PHC – Primary Health Care

SCHMT – Sub-County Health Management Team

SDGs – Sustainable Development Goals

SSIs – Semi-Structured Interviews

TAC – Treatment Action Campaign

TB – Tuberculosis

TBA – Traditional Birth Attendant

WHO – World Health Organisation

UHC – Universal Health Coverage

UNICEF – United Nations International Children's Emergency Fund

UNDP – United Nations Development Programme

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Dedication

For my mother, Joanna Steege, the strongest woman I had the privilege of knowing.

Chapter 1: Introduction

1.1 Chapter overview

This chapter provides background information which aims to contextualise the thesis in wider discourses around gender, decent work and community health workers (CHWs). It states the research aims and objectives and sets out the overall structure of the thesis, providing the rationale for the study and sites selected. Key definitions used throughout the thesis are defined in Box 1.1.

My research is nested within the REACHOUT consortium. REACHOUT was a five year project funded by the European Commission, led by Liverpool School of Tropical Medicine (LSTM), with partners from the Netherlands, Bangladesh, Kenya, Mozambique, Malawi, Ethiopia and Indonesia. The aim of the consortium was to maximise the equity, effectiveness and efficiency of CHWs and other close to community (CTC) providers in promotional, preventive and curative primary health services in rural areas and urban slums in six low- and middle-income countries (LMICs) (Bangladesh, Ethiopia, Indonesia, Kenya, Malawi, Mozambique). More detail on REACHOUT and my position within it is found in 3.2 of the thesis. This research also supports and links to the SEARCH study, funded by International Development Research Centre (IDRC) which was undertaken to explore the feasibility and effectiveness of using mobile health technology with community health workers in Southern Ethiopia to strengthen the health management information system.

Although I recognise gender as a concept is non-binary, it is important to note my analysis focused on the distinctions between men and women. This is in line with the World Health Organisation's definition: "*Gender refers to the socially constructed characteristics of women and men – such as norms, roles and relationships of and between groups of women and men*" (WHO, 2011a), and appropriate to the communities studied.

Box 1.1: Key definitions

Gender - Gender is defined as the 'socially constructed roles, behaviours, activities and attributes that a given society considers appropriate for men and women and people of other genders.

Gender analysis - A critical examination of how differences in gender roles, activities, needs, opportunities and rights/entitlements affect women, men, girls and boys in certain situations or contexts.

Gender blind - Ignores the roles and responsibilities ascribed to, or imposed upon, women/girls and men/boys, in specific social, cultural, economic and political contexts. Projects, programmes, policies and attitudes which are gender blind do not take into account these different roles and diverse needs, maintain the status quo and will not help transform the unequal structure of gender relations.

Gender equality - Equal opportunities, rights and responsibilities for women and men, boys and girls. Equality does not mean that women and men are the same but that women's and men's opportunities, rights and responsibilities do not depend upon gender.

Gender equity - The process of being fair to women and men, boys and girls. To ensure fairness, measures must be taken to compensate for cumulative economic, social, and political disadvantages that prevent women and men, boys and girls from operating on a level playing field.

Gender indicators – A tool to monitor gender differences, gender-related changes over time and progress towards gender equity goals. Provides a reference for making value-judgements.

Gender norms - Accepted attributes and characteristics of being a woman or a man (ideas of how men and women should be and act) at a particular point in time for a specific society or community. They are internalised early in life and are used as standards and expectations to which women and men should conform and result in gender stereotypes.

Gender neutral - not being associated with either women or men and may refer to various aspects such as concepts or style of language. What is perceived to be gender neutral, however, is often gender blind.

Gender roles - Refers to what males and females are expected to do (in the household, community and workplace) in a given society.

Gender relations - Refers to social relations between and among women and men that are based on gender norms and roles. Gender relations often create hierarchies between and among groups of men and women that can lead to unequal power relations, disadvantaging one group over another.

Gender responsive - If gender norms, roles and inequalities have been considered and measures have been taken to actively address them.

Gender specific - Considers women's and men's specific needs and intentionally targets and benefits a specific group of women or men to achieve certain policy or programme goals or meet certain needs. Such policies often make it easier for women and men to fulfil duties that are ascribed to them based on their gender roles, but do not address underlying causes of gender differences.

Gender transformative - Addresses the causes of gender-based health inequities by including ways to transform harmful gender norms, roles and relations. The objective of such programmes is often to promote gender equality and foster progressive changes in power relationships between women and men.

Adapted from: United Nations. Gender Statistics manual. Available at: https://unstats.un.org/unsd/genderstatmanual/Glossary.ashx

1.2 Background to study

1.2.1 Health systems as gendered institutions

Health systems are not gender neutral. Despite a global commitment to gender equity, there is often limited examination of how health systems can perpetuate and exacerbate existing inequalities. For users of the health services at the population level, gender shapes vulnerability to ill-health, intra-household decision-making, health seeking behaviour and access to and utilisation of health services (Tolhurst et al., 2008, Morgan et al., 2016). Within the health system gender also affects health financing, data collection and management, the development of health policies and the makeup of the health labour force (Vlassoff and Moreno, 2002, George, 2008, Percival et al., 2014, Morgan et al., 2016). Yet, health system engagement is often gender-blind; in their review of four post-conflict settings Percival et al. (2018) found health systems made little effort to integrate gender analysis within health system programming (Percival et al., 2018).

Women make up over 70% of the health workforce (WHO) and contribute nearly 5% of the global gross domestic product (GDP) (Langer et al., 2015). Yet women's work is often undervalued, under or unremunerated; approximately half of their contribution to global health is unpaid (Langer et al., 2015). Occupational roles are also highly gendered. Women remain vertically segregated to informal health jobs with lowest pay and least power (Newman et al., 2011, George, 2008, Witter et al., 2017). This can be traced to the devaluing of skills of female health workers, where their roles are assumed to be an extension of the

undifferentiated role of women in the household (Sen and Ostlin, 2008, Betron et al., 2019). This is evident in the lower levels of the health system, as with the large proportion of women undertaking community health work. Women are seen as natural caregivers and community health work, which is often voluntary, is seen as an extension of their natural domestic roles. As such, occupations commonly performed by women and men reflect and reconstitute inequitable gender relations, and are influenced by their gendered positions in society (Witter et al., 2017).

Evidence shows health workers may internalise and reproduce gendered norms within society. Women in particular may experience discrimination at home, within the workplace and the society at large, which spills over into their interaction with their patients (Govender and Penn-Kekana, 2008, Vlassoff and Moreno, 2002). For example, male and female primary health care nurses in South Africa were shown to display attitudes about gender-based violence which reflect dominant cultural and social norms, as they experienced the same levels of violence as clients they were expected to counsel and treat (Kim and Motsei, 2002). This highlights the duality of their roles, as healthcare providers and as community members. This duality may be particularly acute for community health workers (CHWs) who occupy a unique interface position between the health system and their communities and operate out of the communities they serve (Kok et al., 2017). CHW's influence is constrained by their positioning within societal gender and power dynamics. This limits the provision of high-quality services and may mean CHW programmes reinforce, rather than challenge, gender inequity (Steege et al., 2018a).

1.2.2 The Sustainable Development Goals

The United Nation's Sustainable Development Goals (SDGs) are a call to action by all countries to promote prosperity while protecting the planet (UN, 2015). The 17 interconnected goals were launched in 2015, following the end of the Millennium Development Goals, with a target for completion by 2030. The SDGs were devised to address the global challenges we face today related to poverty, inequality, climate, environmental degradation, prosperity, and peace and justice (UN, 2015). Adopting a gender responsive approach to health system strengthening, and expressly the health workforce will be critical to achieving the SDGs. This

thesis speaks directly to SDG five - *Gender Equality* and specifically targets 5.1, 5.4, 5.5, 5.B and 5.C (see box 1.2). Addressing gender inequality and inequity among the health workforce will also pay dividends for SDG three - *Good Health and Wellbeing*, which has the specific target: '**3.c** Substantially increase health financing and the recruitment, development, training and retention of the health workforce in developing countries, especially in least developed countries and small island developing States', as well as SDG eight – *Decent Work and Economic Growth*, which has the specific targets: '**8.5** By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value' and; '**8.8** Protect labour rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment'.

Box 1.2 SDG five: Achieve gender equality and empower all women and girls (UN, 2015)

5.1 End all forms of discrimination against all women and girls everywhere.
5.2 Eliminate all forms of violence against all women and girls in the public and private spheres, including trafficking and sexual and other types of exploitation.
5.3 Eliminate all harmful practices, such as child, early and forced marriage and female genital mutilation.
5.4 Recognise and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies and the promotion of shared responsibility within the household and the family as nationally appropriate.
5.5 Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life.
5.6 Ensure universal access to sexual and reproductive health and reproductive rights as agreed in accordance with the Programme of Action of the International Conference on Population and Development and the Beijing Platform for Action and the outcome documents of their review conferences.
5.A Undertake reforms to give women equal rights to economic resources, as well as access to ownership and control over land and other forms of property, financial services, inheritance and natural resources, in accordance with national laws.
5.B Enhance the use of enabling technology, in particular information and communications technology, to promote the empowerment of women.
5.C Adopt and strengthen sound policies and enforceable legislation for the promotion of gender equality and the empowerment of all women and girls at all levels.

1.2.3 Introduction to community health workers

In 1978 a new approach to the provision of healthcare was introduced based on the values of social justice; equity; community participation; intersectoral action; universal access; prevention; decentralisation of services to community; and provision of services by a team of workers, including community-based workers. These values became the foundation for the International Conference on Primary Health Care at Alma-Ata, Kazakhstan in 1978. The resulting 'Alma-Ata Declaration' envisioned CHWs as a core entity in the provision of primary healthcare in order to achieve universal health coverage of basic healthcare services (Hall and Taylor, 2003, Perry, 2013, Walley et al., 2008).

The following excerpt from the declaration highlights the defining principles of primary health care, which still have relevance today and which point to community health workers as an embedded and sustainable cadre, key to achieving 'health for all' or Universal Health Coverage (UHC).

> *Primary health care is essential health care based on practical, scientifically sound, and socially acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and at a cost that the community and country can afford to maintain at every stage of their development in the spirit of self-reliance and self-determination. It forms an integral part both of the country's health system, of which it is the central function and main focus, and of the overall social and economic development of the community. It is the first level of contact of individuals, the family, and community with the national health system bringing health care as close as possible to where people live and work, and constitutes the first elements of a continuing health care process.* (WHO, 1978)

Today, over 40 years on from Alma Ata, achievement of UHC and the health-related SDGs are currently threatened by a health workforce shortage which is set to rise over the coming decades (WHO, 2015). The magnitude of the workforce deficit varies, but affects rural regions in LMICs the hardest, with critical shortages in sub-Saharan Africa (Olaniran et al., 2017, WHO, 2015). It has been suggested that some low-income countries would have to allocate as much as 50% of their gross domestic product (GDP) to health to be able to reach the required

numbers of skilled healthcare workers (Kok, 2015). The focus on UHC in health policy discourse has contributed to wider recognition of the need for a well-trained and motivated health workforce (Cometto and Witter, 2013). As such, CHWs have received renewed interest in recent years as a way to achieve countries' healthcare goals ensuring that the populations most at risk of ill health are reached despite the misdistribution and unavailability of trained healthcare professionals (Walley et al., 2008, Haines et al., 2007, Hall and Taylor, 2003).

CHWs are often the first point of contact with the health sector for people living at community level, though CHWs' roles and responsibilities vary hugely depending on country and context. Some may focus on a single disease and others more broadly with multiple tasks and high workloads. The range of activities CHWs perform varies and can include health promotion, prevention and curative services. The scale and duration of training and CHW programmes also vary, as well as CHWs' educational level (Olaniran et al., 2017). CHWs may be formally employed by the health sector or volunteers, receiving some or no remuneration. However, they are all health workers performing roles related to healthcare delivery who have received no formal professional or paraprofessional certificate or tertiary education degree (Lewin et al., 2010b).

1.2.4 Time to change the discourse on community health workers

CHWs have long been touted in common discourse as a means to meeting health system goals in the context of limited funds and health care professionals. Community-based approaches may provide cost-effective solutions for the provision of essential health interventions (McPake et al., 2015a). Several cost analyses of CHW programmes for primary healthcare have proven favourable from a health system perspective (McCord et al., 2013, Prinja et al., 2014, Wang'ombe, 1984). Additionally, the transition of HIV into a chronic disease with an ageing demographic and the rising burden of non-communicable diseases in developing regions also opens up a need for long-term community-based provision of healthcare and behaviour change interventions (Walley et al., 2008). It is also accepted that a decentralised approach to primary health care is required to remove physical barriers to services and stimulate uptake of health services at the community level (Rosato et al., 2008).

Alongside being cost-effective (McPake et al., 2015a, McCord et al., 2013, Prinja et al., 2014), CHW programmes have been shown to be effective in reducing child and maternal mortality (Glenton et al., 2010, Lewin et al., 2010b, Lassi et al., 2010). Countries with large scale national CHW programmes such as Bangladesh, Brazil and Nepal experienced some of the most rapid achievements in reducing under-five mortality and all achieved their Millennium Development Goal Four[1] targets (Perry and Zulliger, 2012). Further, CHW programmes and interventions have also been shown to increase immunisation uptake in children, increase the numbers of women breast-feeding, reduce maternal and neonatal mortality and improve pulmonary tuberculosis (TB) cure rates (Lassi et al., 2010, Lewin et al., 2010b). An expanding range of effective interventions can be delivered by CHWs, despite no formal professional certification in most cases (Haines et al., 2007). Moreover, by providing early and appropriate interventions CHWs can reduce the number of admissions to hospitals thereby placing less strain on health systems (Hall and Taylor, 2003).

Further benefits may be conferred by CHWs' unique interface role. Their embedded position also makes them strategically placed to take the social determinants of health into account, including gender norms (Theobald et al., 2015). CHWs understand and with support, are strategically positioned to respond to existing sociocultural norms and gender power dynamics (Theobald et al., 2015). The opportunity to interact with clients at the household and community level provides a deep understanding of and unique insight into the broader context of people's lives (Standing and Chowdhury, 2008).

CHWs' position means they are also looked upon to address inequities in accessing healthcare (McCollum et al., 2016a). A study across two districts in Kenya found management of a malaria programme via CHWs improved equity of access, the poorest and poor groups were more likely to seek care from a CHW (38-39%) compared to the least poor (17%) (Siekmans et al., 2013). Additionally in Ethiopia, where women are often an underrepresented group in TB detection due to multiple gendered barriers in accessing healthcare, the male-to-female ratio among sputum smear positive pulmonary TB cases was brought to close to 1:1 by using female HEWs to collect sputum samples at households (Yassin et al., 2013). In Bangladesh, an

1 Millennium Development Goal Four – Reduce Child Mortality

intervention by Bangladesh Rural Advancement Committee (BRAC) showed a significantly higher proportion of girls recovered from stunting compared with all other groups, contributing to equity gain in health for girls (Khatun et al., 2004).

All of these factors mean that CHWs are being regarded as a means to meet health system goals to improve equity and coverage of services. Despite their potential, it is important to remember that CHWs are not a panacea for weak health systems. David Werner posed an important question in 1981 that still has relevance today - are CHWs becoming lackeys for over-burdened health systems, or, are they positioned to be liberators? (Werner, 1981) It is important to be cognizant of the fact CHWs are often working at the bottom end of the health hierarchy, in unsatisfactory working conditions with minimal opportunities for formal paid employment, a lack of career structure and limited supportive supervision. In many settings CHWs are volunteers and when salaries or stipends are received the amounts are inconsistent and insufficient (Langer et al., 2015). CHW programmes may be further hindered by lack of motivation, excessive workloads, gender-based discrimination and unpredictable quality leading to high attrition rates among staff and ineffective programmes (Glenton et al., 2013, Langer et al., 2015). Further, it has been shown CHWs may compensate for shortcomings of health systems and take on health care responsibilities beyond their defined roles in ways that are not recognised or supported by the health system they work in (George, 2008) and may serve communities at their own expense – sometimes further impoverishing themselves and their families (Maes, 2015a).

Thus, a paradigm shift is needed - moving away from seeing community health workers as a means to meeting health systems goals – but as an opportunity to support and empower a cadre – providing chances for men, and crucially women, to enter into the formal workforce; access further training and education and a career structure; health insurance and employment rights; and contribute to the overall GDP of a country. Women's participation in the paid health workforce results in improved health – both in the generation of wealth but by contribution of earnings to health promoting investments (Langer et al., 2015). Women have been shown to invest 90% of their earnings towards their families' wellbeing compared to up to 40% invested by men (Buvinic et al., 2010).

1.3 Rationale for the study

Successful scale up of CHW programmes will require critical examination of the cadre from a gender perspective as gender inequalities manifest throughout the course of CHW programming. Gender inequalities and discrimination operating in the workforce can impede entry into health occupations or contribute to attrition, absenteeism, lower productivity, poor health and low morale of health workers (Witter et al., 2017). Yet, gender equity has not been central to the debate on human resources for health (HRH) and there has been limited focus on the gendered implications of human resource policies. As Newman (2014) notes, "*lack of concerted attention to gender discrimination in HRH research, policy, and practice is striking*" (Newman, 2014a). This may negatively impact on men but particularly, women who may be segregated to the lower, or informal, cadres and have more limited opportunities to enter the formal workforce (Standing 2000). Policies to redress the undervaluation of and support female health workers are crucial to improve the effectiveness of the health system. Incorporating gender into existing policies and programmes entails changes in the structure of the health care system to allow for equal opportunities for women at all levels (Vlassoff and Moreno, 2002, Hartigan, 2001)

Women are often over-represented in the informal work sector and provide significant support to the health system in the form of CHWs (Langer et al., 2015). Complex gender and power relations mean that CHWs continuously have to navigate gender dynamics in their interface role, which can be an important factor affecting their performance (Kok et al., 2015b). Extending a gender analysis to the CHW cadre is vital in order to realise global SDGs - three (good health and wellbeing); five (gender equality); and eight (decent work and economic growth). This requires critical reflection on the dynamics in which CHWs are operating and the impact on health outcomes (Theobald et al., 2015). Current literature exploring gender and CHWs describes how gender plays out in the interface between CHWs and the community, however, it also demonstrates the way in which current policies and health system structures fail to address negative gender norms. Implementing gender sensitive policies have shown success in increasing women's employment and promotion among women in an indoor residual spraying programme study across several African

contexts (including Ethiopia and Mozambique) (Donner et al., 2017). At an International level the WHO supports gender

sensitive policy making for the CHW cadre, for example, the 2018 guidelines state: "*Given multiple barriers that women face to workforce participation and the resultant gender stratification inequities in the global health workforce, proactive policies are encouraged to promote gender equity*" (WHO, 2018d). However, evidence on what proactive policies look like is limited. Further, how much this filters down to national level CHW policy making is unclear - one analysis of CHW policy development in South Africa found that despite involvement from a wide range of policy actors, the issue of gender never reached the CHW policy agenda (Daniels et al., 2012a). This requires further exploration across different contexts in Africa and Asia.

1.4 REACHOUT policy document review

Given the importance of including gender within CHW policies, it was necessary to document the current status of gender sensitive policies within CHW policies. I therefore undertook a document review to understand the status of gender considerations in current CHW policy, and what practical guidelines and recommendations are in place to advise countries to make strategic decisions about CHWs gender based on their expected roles and responsibilities. I reviewed publicly available national human resources, CHW policy documents and government documents focused on CHWs published in English and Portuguese between 2005-2016 from the four African contexts that are part of the REACHOUT consortium (Malawi, Mozambique, Kenya, Ethiopia). I excluded Indonesia and Bangladesh due to language restrictions.

I read then charted documents in a data extraction table to highlight gender-focus. I extracted data that pertained to: gender in the context of CHWs or other cadres of health workers; strategic objectives and goals relating to gender equality; indicators included in official monitoring and evaluation relevant to gender equality and human resources for health; and gender equality at the community level.

1.4.1 Summary of findings

The CHW policy document review included 13 documents from the four countries as shown in table 1.1. It demonstrates a stark lack of acknowledgement in HRH policies but specifically at the CHW level (table 1.1). There was little evidence of: use of language that demonstrates gender sensitivity and acknowledgement; structural recommendations that address common gendered issues pertaining to recruitment, retention and performance of the health workforce; and limited recognition of the different pressures and challenges facing male and female CHWs. The only clear distinction that is made regarding gender and CHWs is to encourage the selection of female CHWs in Mozambique, recognising their role in providing care to women and children in communities. All documents lacked acknowledgment of differing needs of male and female CHWs and strategies to transform and address these inequities.

1.4.2 Key gaps

Common gaps were found in policy documents that cited a 'gender responsive approach' to HRH in an overarching statement at the beginning of the document. Despite this, there was often little, or no detail, or concrete examples on how the policies are gender responsive. Indicators to measure the impact of any strategic objectives or actions were also lacking. This limits the ability to measure and analyse the effectiveness of any gender responsive strategies. Without including any gender specific strategies (e.g. childcare offered during residential training to accommodate women with childcare responsibilities) or indicators (e.g. childcare offered in all residential training facilities by January 2020), there is also a high chance of policy evaporation and limited accountability.

Despite the recognition of challenges in recruitment, retention and productivity, the country policy documents with mixed sex CHW cadres (Mozambique, Kenya, Malawi) policies on remuneration, retention, training and promotion are gender blind, in that there is no distinction of the differing needs of men and women. All health workers are governed by the same rules and regulations. In this way, they may in fact exacerbate gender inequity highlighting another gap that could be addressed. For example, there is no mention of maternity leave policies for women. Equality-focused policies ought to recognise female health workers juggle life cycle events such as childbirth and caregiving with career

progression and promote measures to empower women to enter and remain in the health labour-market (Newman, 2014a).

Malawi's healthcare worker optimisation analysis included formulae to calculate productivity by sex which aims to determine the number of health care workers required to perform the essential activities at each type of health facility. They found that for CHWs, an optimum amount was 22,043 CHWs as opposed to the 9,443 currently serving. The document also noted the limitations of this method and whilst the formulae were adjusted for maternity leave for women, there is no acknowledgement that calculating productivity by sex is an exercise that should be undertaken with caution. The assumption may be that women would be viewed as less productive due to their gendered roles and caring responsibilities meaning they take more sick days to care for family members. Finally, there was no mention of strategies to promote CHWs, including women, within any of the documents.

Further country-specific details are given below table 1.1.

Table 1.1 REACHOUT country policy documents reviewed and the level to which gender sensitive policy is considered

Country	CHW definition within country	Document title & years covered	Gender mentioned with regard to HRH generally	Timebound indicators included	Gender mentioned specifically with regard CHWs
Ethiopia	Ethiopia's Health Extension Workers are female workers selected from the community they serve. They have completed at least grade 10 and are further trained for one year. They receive a salary as a government employee. They are also supported by a large cadre of unsalaried women called the 'health development army'.	Human Resource for Health Strategic Plan (2009-2025)	*Contains strategic objective: 'create a gender responsive and healthy workforce'. Supported by these strategic actions:* - *Build the capacity of health mangers and policy makers on gender analysis and integration as an essential component of programme design, implementation and review* - *Recruit gender officers/focal persons at regional, health facility levels and training institutions* - *Provide support on gender responsiveness to the public and private sector health training institutions* - *Set gender equity indicators and targets especially for higher level positions and enrolment to medical training institutions* - *Introduce mechanisms that support gender equity including affirmative action*	Recruitment of gender focal persons includes the indicator: "*Number of regions with gender officers and focal persons assigned*" with a 2017 target of 5, and a 2025 target of 11.	*No*
Ethiopia		Health Extension Program in Ethiopia Profile (2007)	*NA*	NA	*Mention that the programme creates jobs for women at grassroots level only.*
Kenya	Kenya's Community Health Workers are both male and female. They are volunteers linked to primary health facilities through Community Health Extension Workers (trained health personnel.)	National Human Resources for Health Strategic Plan *(*2009-2012)	The document states a 'gender responsive approach to ensure gender equity in the training, deployment, development and management of the health workforce' but no concrete examples are given.	No	*No*
Kenya		Health Sector: Human Resources Strategy (2014-2018)	Gender responsiveness is cited in regard to the health workforce: "*Gender responsive approaches will be adopted to ensure gender equity in the*	Strategic objective: Improve Staff wellness and welfare:	*No*

			training, recruitment, deployment, development and management of the health workforce."	- Develop gender sensitive and responsive policy - Gender sensitive policy developed & disseminated by Dec 2015[2]	
Kenya		Taking Kenya Essential Package for Health to the community (2006)	*NA*	*No*	*No*
Kenya		Strategy for Community Health (2014-2019)	*NA*	*No*	*No*
Malawi	In Malawi CHWs are known as Health Surveillance Assistants. They are employed by the ministry of Health and salaried. They can be male or female.	Health Sector Strategic Plan (2011-2016)	*No*	*No*	*No*
Malawi		Human resources for Health Strategic Plan (2007 -2011)	*No*	*No*	*No*
Malawi		Health Workforce Optimisation Analysis: Optimal Health Worker Allocation for Public Health Facilities across Malawi (2014)	*No*	*No*	*No*
Mozambique	In Mozambique CHWs, known as Agentes Polivalentes Elementares, are not formally employed by the government but are volunteers allocated a monthly stipend. They can be male or female	Revitalised programme of Agentes Polivalentes Elementares (2010)	*NA*	*NA*	*Notes priority should be given to applications from female candidates to address maternal and child health. The document also notes the 'varied evidence of the influence of gender on CHWs performance and retention'.*

[2] Policy does not yet exist

	and undergo a four-month training.				
Mozambique		Supervision and Monitoring of the Activities of the Agentes Polivalentes Elementares Manual (2011)	*NA*	*NA*	*No*
Mozambique		National Plan for Health Human resources development (2008-2015)	*Note that lack of gender disaggregation of staff is a limitation but no mention on how to address it*	*No*	*No*
Mozambique		Operational guidelines for the APE programme (2011)	*NA*	*NA*	*"the selection of women should be encouraged. 60% of the candidates must be women, due to their importance in education, and health care in the community."*

Kenya

Kenya's CHW cadre is both male and female and Kenya's national HRH policies and guidelines mention the importance of gender responsiveness in a broader sense. For example, the 2006 Kenyan Community Strategy (MoH, 2006) acknowledges that it is critical '*to protect members of the community such as children, women, disabled persons, orphans and others (differently-abled) who may be exposed to jeopardy but are unable to protect their rights.'* It encourages communities to discuss challenges, find solutions and address power relationships with regard to resource utilisation and decision-making but these issues are not discussed in relation to HRH. While issues related to CHW payment, retention, morale and career progression are discussed there is no mention of the ways that gender norms, roles and relations can affect these issues.

The Kenyan 2009-2012 National Human Resources for Health Strategic Plan (MoH, 2009) recognises the current disparity between the sexes when it comes to seniority and decision-making positions. However, there is no mention of strategies or a commitment to address this imbalance of women in leadership positions and no mention of gender in relation to CHWs. In the Kenyan 2014-2018 Health Sector: Human Resources Strategy (MoH, 2014), which builds on the 2006 policy, gender responsiveness is cited in regard to the health workforce '*Gender responsive approaches will be adopted to ensure gender equity in the training, recruitment, deployment, development and management of the health workforce.*' Although, there is no mention of gender equity with regard to CHWs.

Throughout the policies gender sensitive indicators to monitor progress are lacking. For example, indicators relevant to the attraction and retention of all levels of health workers do not acknowledge gender norms, roles and relations and there are no gender indicators which focus on increasing the number of females in senior roles, or career progression which is a missed opportunity for change. Within the 2014-2018 policy there is also the inclusion of a time-bound indicator 'Gender sensitive policy developed & disseminated by Dec 2015' for the strategic objective 'Improve Staff wellness and welfare' however, there was no further explanation as to what this document may entail and no such document appears to exist.

Malawi

Malawi's CHW cadre is also mixed male and female. There is acknowledgement of gender sensitivity in the language used. For example, Malawi's 2011-2016 Health Sector Strategic Plan (MoH, 2011b) cites gender sensitivity as a 'guiding principle' of the policy and there is mention that '*particular attention will be paid to the effect of gender on health and health-seeking behaviour*' – but this is not taken through to the HRH level. In their 2007-2011 Human resources for Health Strategic Plan (MoH, 2007), there is discussion of '*attracting and retaining a sufficient, equitably distributed, well-motivated, empowered and productive health workforce*', but no acknowledgement of the role of gender. In their 2014 document, Health Workforce Optimisation Analysis: Optimal Health Worker Allocation for Public Health Facilities across Malawi (MoH, 2011a) – sex-disaggregated data are available for CHWs (known as Health Surveillance Assistants) showing a disparity in numbers of male and female CHWs (38% male, 62% female). Further, the document discusses the productivity of the health workforce and includes calculations to assess this disaggregated by sex, although not at the CHW level. No gender sensitive indicators are included.

Mozambique

Mozambique also has a mixed sex CHW cadre – the country currently has around 70% male to 30% female (MISAU, 2010). There was little evidence through language that gender was prioritised in HRH strategies. Mozambique's 2010 community health policy 'Programa de Revitalização dos Agentes Polivalentes Elementares' (or revitalised programme of CHWs) (MISAU, 2010) includes the suggestion that priority should be given to applications from female candidates. This is in reference to the advantage that female APEs may confer to the health of women in the community, especially pregnant women. The document also notes the '*varied evidence of the influence of gender on CHWs performance and retention'*. The 2011 Operational guidelines for the APE programme state the importance of selection of women and cites a specific requirement to have 60% female CHWs '*due to their importance in education, and health care in the community*.' (MISAU, 2011). No gender sensitive indicators are included.

Ethiopia

Ethiopia has an all-female cadre of CHWs, further supported by a large voluntary female workforce known as the Health Development Army. Despite this, there is little mention of gender with regard to the CHW cadre. In the Health Extension Programme Profile document (FMoH, 2007) there is mention that the role of CHW provides employment for women at the grass roots level. The 'Human Resource for Health Strategic Plan (2009-2025)' document (FMoH, 2009) has the following strategic objective *'create a gender responsive and healthy workforce'* and also calls for sex-disaggregated data on the recruitment and deployment of health workers – though not specifically in the context of CHWs. It is the only country context to provide timebound indicators to measure impact of their strategic objective (see table 1.1). Specific guidance on implementation of these policies to meet these targets however is lacking.

Presently, there has been minimal attention paid to the gendered experiences of CHWs from a health systems policy perspective. The document review clearly highlights the gap in gender equitable CHW policy making. Integrating a gender analysis into health policies and programmes is necessary to improve the coverage and effectiveness of health programmes, but also for progress towards social justice. If we are to succeed in building sustainable and gender-responsive health systems we need to address the gendered needs of all healthcare workers, including CHWs who are a key cadre in extending health care to marginalised populations.

1.5 Thesis Aims and Research Questions

The overarching aim of the thesis is to explore the question: *How do gender norms, roles and relations shape both CHWs' working lives, and how do CHW policies and guidelines play out across differing contexts?;* and will answer the following specific research questions:

- *What is the current status of, and discourse on, gender responsive community health worker policy?*
- *How can the health system enhance gender responsive strategies to support recruitment and retention of both male and female CHWs (known as Agentes Polivalentes Elementares) in Maputo province, Mozambique?*
- *What are the gendered experiences, and unintended consequences of mobile technology for CHWs (known as Health Extension Workers) in Sidama Zone, Ethiopia?*

I hope to be able to highlight and explore these issues from a global perspective via this thesis as the majority of studies in this area have focused on a single country context. The impact of gender on CHWs' roles is incredibly context specific. Each context has their own (changing) gender norms, roles and relations making generalisation of national, or sub-national, level insights difficult. In order to provide some general policy recommendations in this area, it will therefore be important to look across multiple contexts in order to draw out similarities and differences that may offer key starting points for policy makers. This will provide the context for more nuanced in-depth country studies, each exploring a relevant area of policy and guidelines to that context. The research approach is outlined in figure 1.1.

Figure 1.1 Overview of the research approach

I met the aim of the thesis by conducting a study of three parts as described below, each with their own research question.

- **Key informant interviews (KIIs).** To explore gender and CHW policy from an international perspective and draw out similarities and differences across contexts.
    - Research question: *What is the current status of, and discourse on, gender responsive community health worker policy?*

- **Empirical research in Mozambique.** Currently, there is a disproportionate amount of male CHWs in Mozambique, which the country aims to redress to improve maternal and child health outcomes at the community level (see 1.7.1.4 for more detail). To inform policy I conducted in depth qualitative analysis to understand the reasons behind the gender imbalance of CHWs in Mozambique.
    - Research question: *How can the health system enhance gender responsive strategies to support recruitment and retention of both male and female Agentes Polivalentes Elementares in Maputo province, Mozambique?*

- **Empirical research in Ethiopia.** In Ethiopia, the government advocates the use of mobile Health technology for the CHW cadre. To date there has been limited exploration of this from a gendered perspective, which could threaten scale up for the all-female cadre (see 1.7.2.4 for more detail). Therefore, I conducted in depth qualitative analysis of how policies and guidelines surrounding new technology play out for the experiences of Ethiopia's all-female cadre of CHWs.
    - Research question: *What are the gendered experiences, and unintended consequences of mobile technology for Health Extension Workers in Sidama Zone, Ethiopia?*

Study outcomes

The purpose of this thesis is to understand the challenges and gendered experiences of CHWs in order to inform policy, which will enable CHWs to feel supported and more adequately

address the health needs of their communities. The primary outcome measures are included in figure 1.1.

1.6 Thesis structure

The thesis is presented over seven chapters structured in the form of papers (see figure 1.2). In this chapter (one) I have presented the rationale for the study, overarching study aim and specific research questions, I will also present the rationale and background for the selected study sites (see 1.7). Chapter two provides an overview of how gender impacts the working lives of CHWs across multiple contexts – the evidence presented comes from a systematic literature review, as well as evidence from the REACHOUT consortium empirical qualitative data that was conducted across the six REACHOUT contexts. This chapter has been published in the peer-reviewed literature in Social Science and Medicine (Steege et al., 2018b).

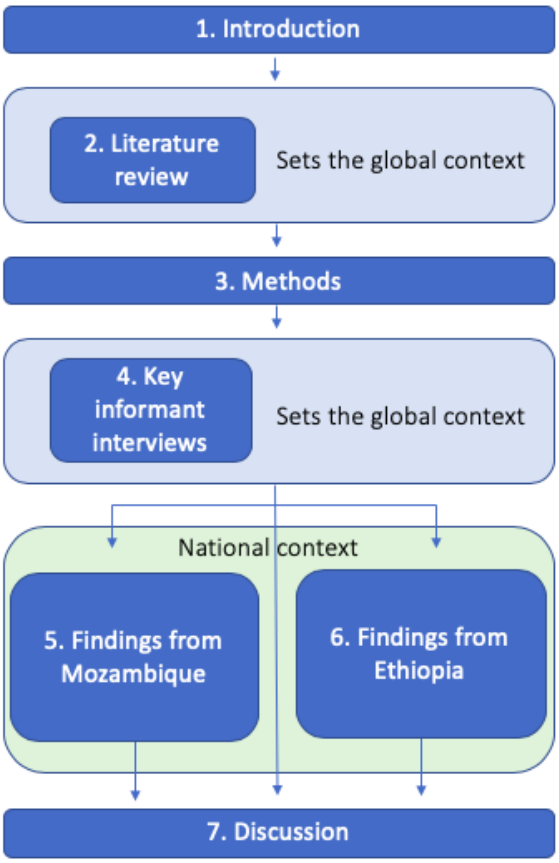
Chapter three provides detailed methodology for each study component as well as providing my theoretical underpinning. Including this chapter was important as it allowed me to frame my study in the context of gender theory and my epistemological standpoint, as well as provide further depth and detail of the methodological process which is important for trustworthiness. This would otherwise be limited due to the 'thesis by paper' approach. This means there is some repetition of methods within each results chapter, but I have tried to keep this to a minimum.

Chapters four-six are all results based. Chapter four provides the results of the KIIs on gender responsive policy making for CHWs, presented in a paper format. This chapter helps to set the context of the two country-based empirical chapters within the global CHW policy landscape. Chapter five provides the results from the Mozambique fieldwork presented in a paper format (under review at Human Resources for Health). Chapter six, the last of the results chapters, provides the findings from the Ethiopian fieldwork and is presented as published in the peer reviewed literature in the Journal of Public Health (Steege et al., 2018c).

Finally, chapter seven allows me to synthesise the findings from the three results chapters, relate them to each other, and to the current literature. It also allows for the country specific

findings to be situated within the broader discourses on CHWs, gender and labour rights. Limitations of the thesis are discussed as well as the contribution to new knowledge. The chapter provides concrete recommendations for CHW policy-making moving forward.

Figure 1.2 Structure of thesis via chapter



1.7 Rationale for Study sites

This section will provide a brief rationale for the study sites selected for the country-specific empirical research as well as some background information on the countries. Further rationale is provided within the results chapter for each country.

The study sites were selected to explore and contrast issues in two purposively sampled, low-income, sub-Saharan African countries with national CHW programmes within the REACHOUT consortium network (Bank, 2019a, Bank, 2019b). Both countries have similar epidemiological profiles and a majority rural population that are currently underserved by the health system. They have a shortage of professional health workers and are heavily reliant upon their CHW cadres to reach rural communities. They have also been selected due to their contrasting gender make up of CHW cadres; where Ethiopia, has an all-female cadre of CHWs by policy, Mozambique has a predominantly male cadre of CHWs in spite of national targets to increase the number of females CHWs. These differing contexts each bring about their own opportunities and challenges from a gendered perspective which I will explore through this thesis.

1.7.1 Mozambique

1.7.1.1 Background

Mozambique achieved independence from Portuguese rule in 1975 but erupted into civil war which spanned 1977-1992 and killed an estimated 1 million people (Percival et al., 2018). The 16-year war severely impacted the health system, whereby Mozambican health infrastructure was greatly damaged (WHO, 2013). It also led to high levels of displacement among its population who settled around cities and towns (WHO, 2013). The population is 29.67 million distributed in 10 provinces and Maputo City (which has province status), and 128 districts. The majority of the population (70%) live in rural areas (WHO, 2018c).

Although the country has achieved high rates of economic growth over the past decade, it remains one of the poorest countries in the world. Its current GDP stands at 12.65 billion US dollars and the average life expectancy at birth is 58.9 years (Bank, 2019a). The country ranks 180th out of 189 countries on the United Nations Development Programme (UNDP) Human

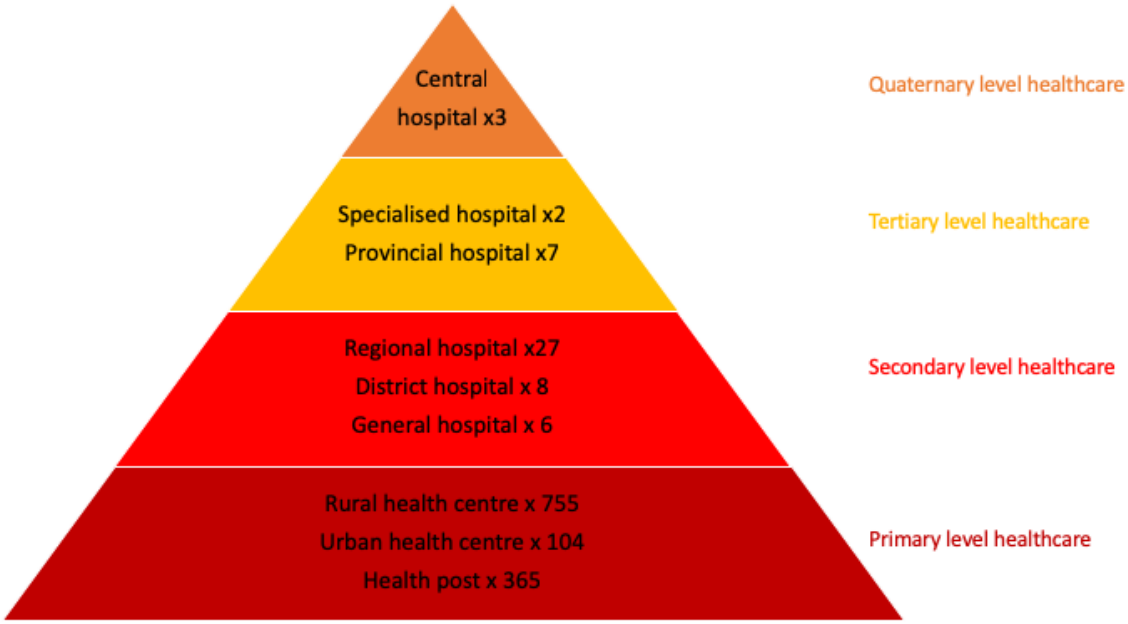
Development Index however, human development indicators show positive progress: female illiteracy rates have fallen, and the gender gap in primary school rates is decreasing (UNDP, 2014b). Despite this, women remain disadvantaged with regard to literacy, GDP per capita and labour force participation (Percival et al., 2018). The country is also currently on track to meet SDG targets to reduce mortality from non-communicable diseases, however, it is making insufficient progress in meeting targets for maternal mortality and some communicable diseases (WHO, 2018c).

The health system in Mozambique is comprised of the public sector, private for-profit sector, private non-profit sector and community. The public sector, the National Health Service (NHS), is the main provider of health services nationwide and is publicly funded – in 2015 Mozambique spent 9% of its total budget on health, however it relies on a large amount of external assistance from donors (Percival et al., 2018). As is common in post-conflict settings, Mozambique experienced an influx of Non-Governmental Organisations (NGOs) and their expatriate workers from the late 1980s. This served to fragment the local health system, undermine local control of health programmes and contribute to social inequality via channelling foreign aid via NGOs at the expense of the NHS (Pfeiffer, 2003). To resolve some of the problems with vertical programming caused by the presence of NGOs, the Mozambican Ministry of Health (MoH) signed the "Kaya Kwanga Code of Conduct" in May 2000 that spelled out a new approach to the channelling and management of aid with donor agencies and NGOs (Pfeiffer, 2003). These agreements are aligned with what is known as the Sector-Wide Approach process, which seeks better-coordinated external support to national health services (Pfeiffer, 2003).

The NHS is organised into four levels of care. Level one is the main focus and is where the Primary Health Care strategy is implemented (Sidat et al., 2014) (see figure 1.3). It promotes a health policy based on the principles of broad and equitable access to health services through sustained expansion of the primary healthcare system (Ndima et al., 2015b). The primary level of the NHS comprises a set of basic actions to solve the most common problems in the community e.g. malaria, diarrhoea and maternal health services. Between 70-80% of problems that motivate the search for healthcare can be solved at this level (WHO, 2018b). However, a considerable proportion of the population access the NHS via higher levels due to

the health workforce shortage, poor diagnostic capacity and inefficient referral system (WHO, 2018b).

Figure 1.3. Four tier healthcare system in Mozambique. Redrawn from (MISAU, 2007)



One of the major obstacles to rebuilding a health system post conflict is the human resources for health shortage and Mozambique has three physicians and 21 nurses per 100,000 inhabitants (WHO, 2018b). Research shows that female dominated health professions, such as nurses and midwives, were affected by this shortage of doctors (Adolphson et al., 2016), facing heavier workloads and additional responsibilities. There is also a high level of maldistribution with many rural health workers working in urban areas (WHO, 2013).

1.7.1.2 CHW programme

In 1978, the same year as the Alma Ata declaration, the CHW programme was introduced to meet the needs of the rural communities experiencing limited access to healthcare services. However, the war left the programme without adequate supervision or technical support and the programme was suspended until resources allowed. In 2010, Mozambique launched a

revitalised CHW programme in response to inequitable coverage of health services. (Give et al., 2015a). These CHWs are known as Agentes Polivalentes Elementares (APEs) in Mozambique, meaning "essential [or elementary] multi-purpose agents".

The programme aims to split APE's time between curative services and health promotion activities 20:80 respectively (Give et al., 2015a). APEs are selected by community leaders and then undergo a four-month training programme reflecting this package of preventive, promotive and curative services. Curative services are limited to testing and treatment for malaria, diagnosis and treatment of diarrhoea by oral rehydration, antibiotics for acute respiratory infections in children, provision of first aid and the detection of danger signs in children, adults and pregnant women (Ndima et al., 2015b). APEs sign an agreement on a 'volunteer' basis, which allows them an allowance (which can be withheld for incomplete or delayed reports) and access to free healthcare at the local health centre. Policy also dictates that APEs should come from the community they serve and serve a population of between 500-2,000. Further, they should ideally work between 8-25km from the health facility in order to acquire appropriate supervision and support but still serve the rural communities (MISAU, 2010). In reality, as coverage of health services in Mozambique is quite low (around 40%), there is persistent pressure from the communities to instruct and deploy APEs even in areas that are further from the established limits (Sidat et al., 2014). As of December 2018 there are 1,453 females to 3,334 males serving as APEs countrywide (MISAU, 2018)

1.7.1.3 REACHOUT context analysis findings in Mozambique

A multi-method context analysis was undertaken in each of the REACHOUT country settings to identify how community context and health policy and interactions with the rest of the health system influence the equity, effectiveness and efficiency of close to community (or CHW) services. The context analyses were completed before I joined the REACHOUT project therefore I did not have a role in this data collection, analysis or write up of these. I was however given access to the raw NVivo data files so I could conduct further analysis and draw out findings pertaining to gender and CHWs. These findings then fed into the literature review (see chapter 2). The context analysis was designed to inform the development of an analytical

framework that was planned to support the design and analysis of the quality improvement cycles of the second phase. It consisted of an international literature review; context specific desk research; context specific CHW mapping; and a qualitative exploratory study in each setting looking at barriers and facilitators of CHW performance.

In Mozambique, Moamba and Manhiça were selected as the REACHOUT study districts (more information on the districts can be found in Methods – 3.4.2.1). The Mozambican desk review found that in terms of broad contextual factors, gender imbalance acted as a barrier to the programme as there is a mismatch with client expectations, whereby women were more accepting of maternal and neonatal health services offered by female CHWs (Sidat et al., 2014). They also found limited supplies and transport were key health system barriers and weak monitoring, supervision and feedback systems for APEs were identified as intervention design barriers. The stakeholder mapping exercise revealed a well-coordinated approach for the APE programme that included government level stakeholders, international donors, local and international NGOs (Sidat et al., 2014).

Qualitative research conducted in the REACHOUT consortium (including IDIs and FGDs) was carried out during July and August 2013 with Community leaders, APEs, supervisors/health managers and mothers of children under five, in both study districts. The research found that there were barriers in access for APEs – due to long distances and lack of transport (Give et al., 2015a). The lack of transport was also found to impact on communication, with many APEs using their personal credit to communicate with supervisors (Ndima et al., 2015b). The study also revealed issues with monitoring and evaluation. For example, the referral system – which although well established, has no mechanism to provide feedback to APEs, so they do not know the outcome of a patient once they have been referred (Sidat et al., 2014). With regard to the gender imbalance of APEs - it was found that female community members faced gender-based difficulties in accessing APE positions, related to their limited educational background and male partners' disapproval (Sidat et al., 2014).

Study findings also revealed the importance of the interface position of APEs, and the changing social context (Give et al., 2015a). Coming from the communities they serve; they share the same social and cultural contexts as their clients. This manifested in APEs citing hazardous health practices and habits among the community that they do not feel to be a

hinderance to their work. APEs overcome communication challenges, identify problems in households that are widely known in the community and address relevant promotion issues tailored to the community or household (for example, latrine use, facility delivery etc.). APEs described agency in how they construct their roles and a responsiveness to community expectations (Give et al., 2015a). In both districts where the fieldwork took place, the delay in the allocation, distribution and receipt of subsidies was identified as a problem that can demotivate APEs (Ndima et al., 2015b). Supervision and monitoring and evaluation were identified as two priority areas for the REACHOUT quality improvement intervention cycles to focus on, based on study findings.

1.7.1.4 Policy perspective to be explored

Currently, only 30% of APEs in Mozambique are female (MISAU, 2018). This is in spite of targets set by the national office to have 60% female candidates (MISAU, 2011). The target is due to the perception that women have a greater cultural ability to deal with maternal and child health issues, and are important in education within the community (MISAU, 2018, MISAU, 2011). Further, the preponderance of male APEs may deter women from seeking care for newborns, as within the Mozambican context men are excluded from care after birth (Chilundo et al., 2015).

The unbalanced ratio of male to female APEs therefore requires attention in terms of their ability to access key target groups. Limited studies have provided different reasons for the gender imbalance. The draft 2018 strategy document cites the low level of schooling among the female population (MISAU, 2018). A recent study with national level key informants also highlighted men's relatively higher literacy rates and community selection processes favouring young men because they feel that men are more deserving of paid work and the opportunity for advancement (Chilundo et al., 2015). A recent REACHOUT analysis offers another explanation for high numbers of male APEs, in that the requirement to follow a four-month training course is possibly more difficult for women to comply with (De Koning et al., 2014).

There is therefore a need to explore the reasons behind the gender imbalance further in order to inform gender sensitive recruitment and retention policies to support female CHWs entering and remaining in the workforce.

1.7.2 Ethiopia

1.7.2.1 Background

Unlike Mozambique, Ethiopia was never successfully colonised. Like Mozambique however, Ethiopia has also experienced civil conflict. Ethiopia fought against the Derg military regime (1974-1991), which alongside drought left the country in turmoil. The Derg regime had adopted the Alma Ata Primary Healthcare strategy but the ideals of community participation were undermined by the authoritarian structure of the regime and coercive, top-down interventions (Ostebo et al., 2018). In 1991 democracy was formally introduced by the current government, led by the Ethiopian People's Revolutionary Democratic Front. However, the limited extent to which democracy has been implemented has led scholars and human rights activists to label the current Ethiopian regime as authoritarian (Ostebo et al., 2018). It is within this historical-political context that the Health Extension Programme (HEP) was developed in 2004 (Ostebo et al., 2018).

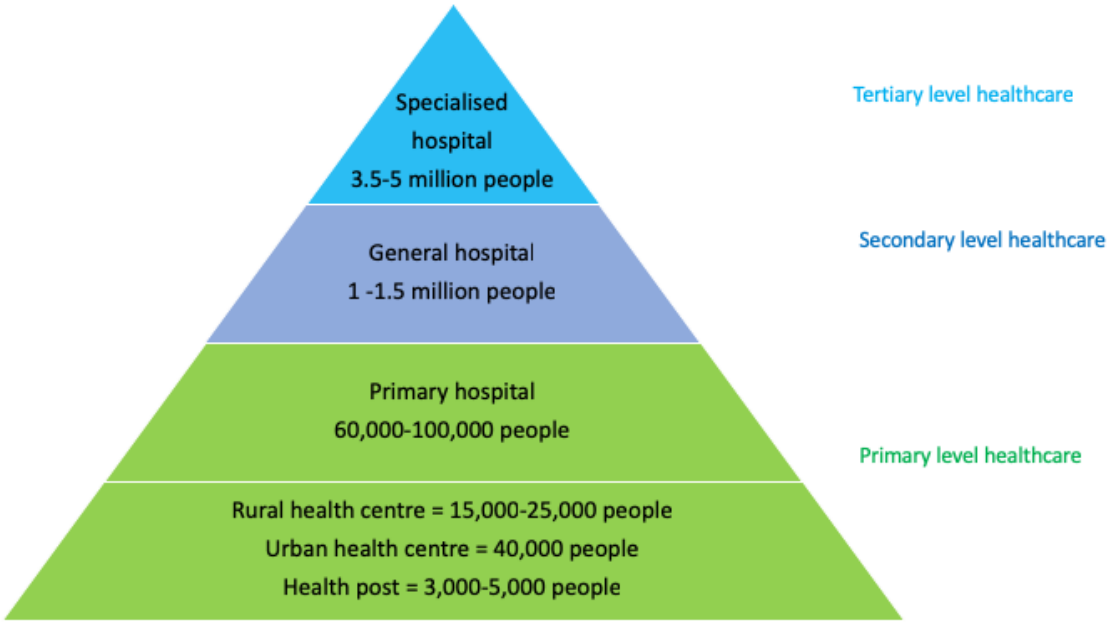
Ethiopia is a landlocked country with a population of 104.96 million (Bank, 2019b) with 85% of the population living rurally (WHO, 2008). It ranks 173 out of 189 countries on the UNDP's Human Development Index. The current GDP is 80.56 billion US dollars and the average life expectancy at birth is 65.9 years (Bank, 2019b).

The country experiences a similar epidemiological profile to Mozambique and is also on track to meet SDG targets to reduce mortality from non-communicable diseases, however like Mozambique, it is making insufficient progress in meeting targets for maternal mortality and some communicable diseases (WHO, 2018a). It is estimated that 60% to 80% of the country's health problems are due to largely preventable communicable diseases such as malaria, pneumonia and TB (WHO, 2008). It is also ranked as one of the most inequitable of 54 countries in a comparison of the scale of inequalities for maternal and child health indicators

(Barros et al., 2012). The country ranks 121 on the gender equality index, just ahead of Mozambique's 138 (UNDP, 2014b) .

The health system in Ethiopia has seen a rapid expansion of the private and private-for-profit sector in the past 20 years. The public sector is structured in a three-tier health care delivery system (figure 1.4). Level one is the woreda health system, or primary health care unit, comprised of a primary hospital, health centres and satellite health posts which are connected via a referral system. Level two is a general hospital and level three is a specialised hospital.

Figure 1.4 Three-tier healthcare system in Ethiopia. Redrawn from (WHO, 2018b)



Like Mozambique, Ethiopia is also heavily reliant upon donor funding and it has been argued that Ethiopia's health achievements could not have been accomplished without substantial donor support (Ostebo et al., 2018). This is despite a health care financing strategy implemented by the Ministry of Health in 2007. The strategy aimed to increase funding for health by improving resource mobilisation and ensuring equitable resource allocation, efficiency of resource utilisation and financial protection of its citizens. At this time the per

capita national health expenditure was only US$ 16.1, far below the US$ 34 recommend by the WHO (WHO, 2018b).

Ethiopia suffers from an acute shortage of health workers at every level, with a health workforce of 0.7 per 1000 population (WHO, 2018b). In recent years numbers of nurses, midwives and health extension workers have shown improvement though physician numbers remain low (WHO, 2018b). Like Mozambique, the rural population in Ethiopia has been chronically underserved (WHO, 2008). There is also an uneven distribution of highly skilled health workers, which is highly skewed towards private and NGOs that only serve a small segment of the population (WHO, 2018b). Further, there is an imbalance in skills along geographic, gender and sector dimensions which poses a serious challenge for the delivery of essential health care services, mainly in rural areas.

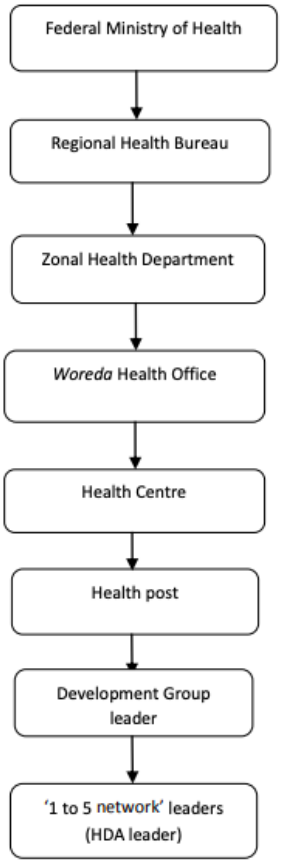
1.7.2.2 CHW programme in Ethiopia

Ethiopia's HEP was relaunched in 2004 in response to challenges in achieving UHC (Perry et al., 2014). The HEP aimed to achieve universal primary health care coverage and was devised to address the high mortality rates from preventable communicable diseases such as malaria, pneumonia and TB, and also the country's high maternal mortality rate (WHO, 2008). The HEP includes the training and deployment of female CHWs – known as health extension workers (HEWs) based within local communities. The HEWs are trained for one year and salaried by the government (approx. $100USD monthly) to deliver primary healthcare under sixteen health packages, including maternal and child health (MCH) and TB. By 2010 over 33,000 women had received training and had been dispersed all over the country to serve at the health posts (Ostebo et al., 2018). Two HEWs are assigned to each kebele (smallest administrative unit), serving an average population of about 5,000 people. HEWs spend 70% of their time making house visits.

HEWs, work out of the health posts, and are accountable to health centres technically and administratively. The *Woreda* (district) health office has general oversight over both HEWs and health centres (figure 1.5). The health centres have a crucial role to play in providing referral care and technical and practical support to the HEP. The *Woreda* health offices have

an important role in allocating budgets and providing necessary supplies and logistics to the health posts (Zerihun et al., 2014). The supervisory team established at different levels — i.e. from the MoH down to Woreda level — is responsible for overseeing the programme planning and implementation. Supervision becomes more frequent the lower down the HEP staff are placed and HEWs, operating at the health posts, are supervised weekly (Zerihun et al., 2014). HEWs are supported by a large cadre of female volunteers, known as the Health Development Army (HDA). One woman out of every five households becomes a '1-5 leader' and is chosen for her status as a 'model household'. A group of five or six '1-5 leaders' is in turn led by a 'Development Group Leader', or '1-30 leader' (figure 1.5). The Development Group Leader works closely with HEWs. They are responsible for following up with women in their communities, making sure each woman adheres to, and practices, what the HEW teaches. They also play a role in identifying pregnant women and encouraging institutional delivery. It has also been noted that despite strengthening health care in rural communities, this network of women also serves as a tool for political control (Ostebo et al., 2018, Maes et al., 2015a).

Figure 1.5 Supervisory structure of Health Extension Programme (Zerihun et al., 2014)



1.7.2.3 REACHOUT context analysis findings in Ethiopia

As in Mozambique, a multi-method context analysis was undertaken in Ethiopia prior to me joining the REACHOUT project. The aim was to identify how community context and health policy and interactions with the rest of the health system influence the equity, effectiveness and efficiency of close to community services. The context analysis was designed to inform the development of an analytical framework that was planned to support the design and analysis of the quality improvement cycles of the second phase. Improving maternal health outcomes in Ethiopia is a priority for the country, REACHOUT in Ethiopia focuses on maternal health services provided in rural areas by HEWs in Sidama Zone, South Ethiopia.

The context analysis in Ethiopia conducted in the REACHOUT consortium consisted of an international literature review; Ethiopia specific desk research; CHW mapping in Ethiopia; and a qualitative exploratory study looking at barriers and facilitators of CHW performance in six *Woredas* of Sidama Zone (three of these *Woredas* are also SEARCH project intervention districts). Focus group discussions and in-depth interviews were used for the qualitative study with a range of participants: HEWs, health centre heads, delivery case team leaders, *kebele* (neighbourhood) administrators, traditional birth attendants (TBAs), programme coordinators, mothers and community leaders (Zerihun et al., 2014).

The review revealed that although the HEP has improved health outcomes in the community – for example, by improving hygiene and sanitation and providing treatment for TB and malaria – several barriers to HEW's performance exist (Zerihun et al., 2014). For example, cultural preference for keeping pregnancy secret and wanting only to be seen by relatives rather than health providers mean that institutional delivery is low. Gender was also an important finding in the performance of HEWs. While most at the community level accept female HEWs for discussing maternal health issues, HEWs may also face challenges from the community because they are female. HEWs mentioned that they did not get much support from males while providing health education due to the deep-rooted belief in the community that females are inferior to males in all aspects. It was also found HEWs encountered sexual assault in the community due to their gender (Zerihun et al., 2014). Supplies, logistics and

basic infrastructure such as electricity, water and roads also affected HEWs' performance. Further, HEWs felt underpaid and overworked and without supportive supervision. The majority of the supervised health posts did not receive supervisory feedback (Zerihun et al., 2014).

The qualitative study conducted by REACHOUT consortium found important cultural factors that impact the performance of HEWs. For example, the desire of community members for many children, following the practice of their mothers and ancestors, a trend of hiding the pregnancy until it becomes evident, low risk perception, reliance on God instead of medical support and unwillingness to be seen by unfamiliar health providers (Zerihun et al., 2014). Health system factors also were a barrier for HEWs' performance, due to an absence of logistics, supplies and infrastructure at health posts.

Intervention design factors such as regular salary and non-financial incentives e.g. positive results and respect in communities help to facilitate the work of HEWs. De-motivating factors were the limited ability for career advancement when compared with other sectors, and a lack of ability to transfer between *kebeles* as HEWs are expected to come from the communities they serve (Zerihun et al., 2014). Supervision was also reported as being irregular and fault-finding, rather than supportive (Kok et al., 2015c). There was also a lack of written feedback which served as a barrier to performance. High workloads and limited uptake of referral by clients due to problems with accessibility were further identified barriers. Training was also cited as insufficient and lacked a practical component, though NGOs also organised training which benefitted the HEWs (Kok et al., 2015c). Mobile phones were also cited as a facilitating factor in coordination with ambulances, expectant mothers and arranging drug distribution.

Based on these findings and what was feasible to address, the REACHOUT quality improvement intervention focussed on improving factors related to supervision, referral and the community. Mobile technology was used to strengthen the interventions and improve antenatal care follow-up, referral, coordination of health post services with the health centre and the Health Management Information System (HMIS).

1.7.2.4 Policy perspective to be explored

In 2012, the Ministry of Health in Ethiopia developed a mobile health (mHealth) strategy providing a framework for action, in which it called for *'e-health interventions that could improve the effectiveness of HEWs' primary health care service provision'* (FMoH, 2014). The mHealth strategic framework states that HEWs being the first port of call for remote populations, should be the driver for the first mHealth roll out phase. MHealth is an area which may have the potential to transform gender norms and relations, to date however, there has been limited evidence exploring the gendered experiences of CHWs using mHealth. This is an important research gap to address to ensure policies and strategies around new technology support and empower this all-female cadre, rather than exacerbate any existing harmful gender norms.

Through REACHOUT I had the opportunity to link with the SEARCH project, a separate project and funding stream but linked to REACHOUT via 'REACH Ethiopia' - a common partner between SEARCH and REACHOUT. The SEARCH project aimed to explore the feasibility of using mobile technology with Ethiopia's Health Extension Worker cadre to create a digital health management information system (HMIS) in Southern Ethiopia. The project was funded by the International Development Research Centre (IDRC), Canada. Linking with this project enabled me to broaden the scope of my research beyond what was possible within REACHOUT to explore the impact of new technologies for CHWs, and the gendered implications of this.

SEARCH aims to improve the reporting system by making data collection timely and accessible at all levels of the health system. In this way, data can be acted upon to support service delivery to those most in need. The current system relies on paper-based reporting, which is transported from health posts to health centres, districts, zones and finally to the region; this system leads to delays, incomplete data or inconsistent data. Female HEWs are currently using the mHealth tool to input data onto the digital HMIS. Linking with this project provides an opportunity to explore some of the gender and equity aspects of how the new strategy around mHealth plays out for the HEWs' experiences. These findings will help guide the roll

out of this mHealth project to other regions in Ethiopia and will also help uncover some of the gender implications to be considered when developing mHealth policies for female CHWs.

Chapter 2: Findings from the international literature

2.1 Chapter overview

This chapter introduces the current literature on gender and CHWs (called close to community providers in this chapter). It consists of findings from a systematic review that was conducted as part of this thesis from January- September 2017 and findings from a qualitative research done as part of the REACHOUT consortium in 2014. Findings from the literature are presented via themes that emerged across a wide range of contexts. Finally, key areas for policy change are suggested. This chapter has been published in the peer reviewed literature and I have included it in full in its published form without changes (Steege et al., 2018b). There is therefore some overlap in the introduction and discussion, necessitated by the structure but I have tried to keep this to a minimum.

How do gender relations affect the working lives of close to community health service providers? Empirical research, a review and conceptual framework

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KH: Conceptualisation, Validation of conceptual framework, Writing - editing
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2.2 Abstract

Close-to-community (CTC) providers have been identified as a key cadre to progress universal health coverage and address inequities in health service provision due to their embedded position within communities. CTC providers both work within, and are subject to, gender norms at community level but may also have the potential to alter them. This paper synthesises current evidence on gender and CTC providers and the services they deliver.

This study uses a two-stage exploratory approach drawing upon qualitative research from the six countries (Bangladesh, Indonesia, Ethiopia, Kenya, Malawi, Mozambique) that were part of the REACHOUT consortium. This research took place from 2013-2014. This was followed by systematic review that took place from January-September 2017, using critical interpretive synthesis methodology. This review included 58 papers from the literature. The resulting findings from both stages informed the development of a conceptual framework.

We present the holistic conceptual framework to show how gender norms, roles and relations shape CTC provider experience at the individual, community, and health system levels. The evidence presented highlights the importance of safety and mobility at the community level. At the individual level, influence of family and intra-household dynamics are of importance. Important at the health systems level, are career progression and remuneration. We present suggestions for how the role of a CTC provider can, with the right support, be an empowering experience. Key priorities for policymakers to promote gender equity in this cadre include: safety and well-being, remuneration, and career progression opportunities.

Gender norms, roles and relations shape CTC provider experiences across multiple levels of the health system. To strengthen the equity and efficiency of CTC programmes gender dynamics should be considered by policymakers and implementers during both the conceptualisation and implementation of CTC programmes.

2.3 Why gender norms are important in the context of CTC providers

Close-to-community (CTC) providers' play an important role in health service provision carrying out promotional, preventive, and/or curative health services and they are often the first point of contact to the health system for community members. They can be based in the community or in a basic primary health care facility (Lehmann and Sanders, 2007a). By having direct contact with communities, they can expand access to services and contribute to improve health outcomes. CTC providers include a variety of different types, roles and designations of health workers, with Community Health Workers (CHWs) constituting the largest group (Theobald et al., 2015). Lewin *et al.* 2010 define a CHW as "any health worker carrying out functions related to health care delivery; trained in some way in the context of the intervention, and having no formal professional or paraprofessional certificate or degree in tertiary education" (Lewin et al., 2010a). In addition, it is advocated that CHWs should be members of, and selected by the communities they serve (Lehmann and Sanders, 2007a).

The Sustainable Development Goals (SDGs) bring renewed emphasis on the importance of addressing the social determinants of health (UNDP, 2015). Understanding and harnessing CTC providers' intermediary or interface role between communities and the health sector will also be fundamental to achieving universal health coverage, as their unique position means they are strategically placed to understand (and potentially address) the social determinants of health. CTC providers are also not only a key cadre for service provision but, as described by Perez and Martinez, are also "natural researchers" embedded in community realities, and able to relay these realities to outsiders, including policy makers (Perez and Martinez, 2008). CTC providers' experiences should be listened to, not only to understand these realities, but also to ensure that they are appropriately supported to realise their potential as agents of social change (Kane et al., 2016b).

Richard Horton highlighted another key area of focus for achieving the SDGs when he wrote that SDG five (achieve gender equality and empower all women and girls) is the neglected SDG for health (Horton, 2015). There is growing literature around gender inequities within human resources for health (Standing, 2000, Dhatt et al., 2017b, George, 2007). Still, there is limited country and project specific gender analysis of CTC service provision and the ways that

gender dynamics shape CTC providers' experiences and their ability to deliver quality health services and address inequities. Research on how gender shapes CTC service provision has also not featured largely in health research or policy, and is an important gap to address (Östlin et al., 2011, George, 2007).

This paper aims to add to the current literature, as well as provide a critical synthesis of the existing knowledge around gender and CTC health service provision. We present the challenges and opportunities across diverse geographical and programmatic contexts in order to provide key recommendations for policy makers to promote gender equitable CTC provider programmes. The conceptual framework presented in the results provides a visual representation of the factors affected by gender norms that impact the working lives of CTC providers that emerged from both the empirical research conducted as part of the REACHOUT consortium and the international literature. Although we acknowledge that gender as a concept is non-binary, our analysis focused on the distinctions between men and women, in line with the World Health Organisation's definition: "Gender refers to the socially constructed characteristics of women and men – such as norms, roles and relationships of and between groups of women and men" (WHO, 2011a),

There is also increasing acknowledgment of the need for an intersectional approach to gender analysis, which is critical to understanding the way different social stratifiers and power structures influence health inequities. CTC providers often have a lower socio-economic status, educational level, and are predominantly women. They sit at the bottom of the health system hierarchy and are subject to the structural power relations which shape the health sector and their societies (Larson et al., 2016). These factors can influence their experience of gendered norms and relations. Where possible an intersectional lens is used, however, these data are largely missing from this emerging topic.

2.4 Methodology

This study uses a two-stage exploratory approach to synthesise learning on CTC providers' gendered experiences. The first stage was qualitative research across six country contexts (Bangladesh, Ethiopia, Indonesia, Malawi, Mozambique, Kenya) undertaken as part of the

REACHOUT consortium between 2013 and 2014 (Koning et al., 2014). This revealed gender to be an important factor in shaping CTC provider experience, prompting the need for the second stage of this study, a focused review on gender and CTC providers, which took place between January-September 2017.

2.4.1 Stage 1 - Qualitative research across six countries

The REACHOUT consortium conducted primary research focused on factors influencing performance of CTC providers (Kok et al., 2015a). Qualitative research was most appropriate to obtain in-depth insight into supervision of CTC providers and barriers and facilitators into CTC provider motivation and performance (Pope et al., 2002). Participants (see table 2.1) were purposively selected for diversity of age, gender, geographical location and experience. Common topic guides for focus group discussions (FGDs) and semi-structured interviews (SSIs) with CTC providers, policymakers, managers, and community members were developed. These were informed by a previous systematic review presenting an analytical framework on factors influencing the performance of CTC providers (Koning et al., 2014) and domains focused on tasks, roles and responsibilities, training and support, supervision, communication and relationships, motivation, referral, recruitment and incentives (Kok et al., 2015c, McCollum et al., 2016b, Nasir et al., 2016, Otiso et al., 2017b, Chikaphupha et al., 2016, Give et al., 2015b, Ndima et al., 2015a, Mahmud et al., 2015).

Table 2.1 Interviews conducted per country, by informant type. Adapted from (Kane *et al.* 2014).

Country	Bangladesh	Ethiopia	Indonesia	Kenya	Malawi	Mozambique
CTC provider	CTCP	HEWs	Kader (village midwife or nurse)	CHEWs	HSAs	APEs
FGDs	0	6	3	6	3	0
SSIs	Formal CTCPs - 8 Informal CTCPs - 16	12	44	0	8	18
CTC supervisor/ manager/ key informant						
SSIs	Paramedics - 2, Clinic Mangers - 2, Counsellors - 2, Nurse - 1, Program officer - 1	Kebele administrator - 3, Health centre in charge - 3, Delivery case team leaders - 3, HEP coordinators -3, Regional HEP coordinator -1,	Head of PHC or Puskesmas - 4, Midwife coordinator - 2, Head of district -2, MCH section - 2	CHEWs - 16, SCHMT members - 3, Facility in-charges - 4, National level policy makers - 4	District level staff - 13, Health centre in charges - 2, NGO staff - 9	Health facility supervisors - 3, District supervisors - 2
Community members						
FGDs	Married women – 8, Married men – 4	Women – 6 Men – 2	Men – 2	4	Women – 7 Volunteers – 6	Mothers - 8
SSIs	0	Mothers – 12 TBAs – 6	Mothers – 39 TBAs – 8 Head of village & head of PKK – 17	10	Mothers – 1 TBAs – 6 Traditional leaders – 3 Volunteers – 2	Community leaders – 6

APE = Agentes Polivalentes Elementares; CHEW = Community Health Extension Worker; CTCP = Close-to-Community Providers, FGD = Focus Group Discussion; HEP = Health Extension Programme; HEW = Health Extension Worker; HSA = Health Surveillance Assistant; Kader = Village Health Volunteer in Indonesia; Kebele = smallest administrative district in Ethiopia or 'neighbourhood'; MCH= Maternal and Child Health; NGO = Non-Governmental Organisation; PHC = Primary Health Centre; PKK = refers to the 'family welfare movement' – an Indonesian women's organisation; Puskesmas = sub-district community health centre; SCHMT = Sub-County Health Management Team; SSI = Semi-Structured Interview; TBA = Traditional Birth Attendant.

Each country context used local health systems researchers, experienced and trained in qualitative data collection. Semi-structured topic guides were developed in English and translated into local language and back-translated for consistency. The topic guides were piloted and adapted. All participants provided informed consent; SSIs and FGDs were digitally recorded, transcribed and translated into English. A sample of transcripts was randomly checked against the recordings by one researcher per country. Daily debriefing sessions were held with all data collectors in each context to discuss key findings, encourage reflexivity, summarise notes and observations, identify saturation of themes and refine lines of inquiry.

The transcripts were independently read in pairs by four researchers per country to identify key themes and develop a coding framework. This process used open-coding (Charmaz, 2014), combined with a pre-defined common framework of factors that could influence CHW performance common across all six countries (Koning et al., 2014). Transcripts were coded using NVivo (v.10) software, emerging themes were discussed, and the coding refined. The coded transcripts were further analysed and summarised in narratives by theme. Each country validated findings via meetings with district health offices. Although gender issues were not the focus of the studies, they emerged inductively in our data analysis. Queries were run on this data to explore findings related to gender norms and discussed within country teams (national analysis) and across the whole REACHOUT consortium team (inter-country analysis).

Ethical approval was granted by KIT Royal Tropical Institute, Amsterdam for the generic protocol. Each of the six countries obtained ethical clearance from their respective national ethics committee.

2.4.2 Stage 2: A systematic review using critical interpretive synthesis methodology was conducted to explore the impact of CTC providers' gender on their role and service provision in low- and middle-income countries.

Methods for systematic reviews employing qualitative data are still developing, with many approaches emerging in this area (Seers, 2015, Barnett-Page and Thomas, 2009). One method is critical interpretive synthesis, which takes a grounded theory approach and uses techniques from qualitative research to guide an iterative process to the review process (Dixon-Woods et al., 2006a, Barnett-Page and Thomas, 2009, Corbin and Strauss, 1990). A critical interpretive synthesis approach was deemed most appropriate for the following reasons:

1) It is well suited to the emergent and exploratory nature of our review question: *'How do gender relations impact the working lives of CTC service providers?*' This called for an organic approach to development of the search title and the search strategy (Dixon-Woods et al., 2006b)

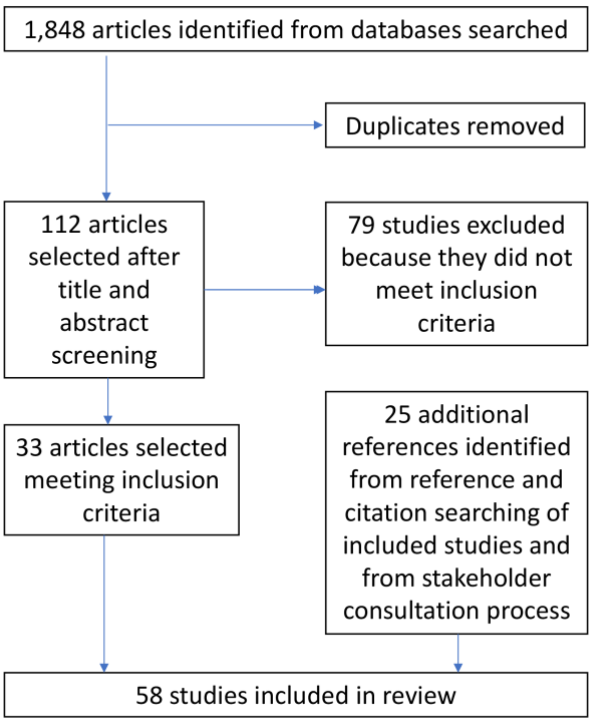
2) Critical interpretive synthesis is a systematic approach facilitating the analysis of complex and diverse bodies of literature. This may include qualitative and quantitative data and includes forms of evidence that are traditionally excluded in conventional systematic

reviews but that may be pertinent to an emerging research topic (Ako-Arrey et al., 2016, Dixon-Woods et al., 2005, Dixon-Woods et al., 2006b)

3) Data are used to generate key themes and the relationships between them and presented in a conceptual framework. Demonstrating the complex interplay of these linkages is critical to better understanding the CTC providers' interface role and how this is shaped by gender in different contexts (Dixon-Woods et al., 2006b)

To help define a search strategy, eight papers were purposively selected for relevance (these were identified through searching the literature, discussions with stakeholders, including authors of relevant work at conferences) (Dixon-Woods et al., 2006b). The papers were mapped for relevant MeSH (Medical Subject Headings) terms and keywords using a MeSH analyser tool (Yale, 2015). These were used to define a search strategy for MeSH terms and related keywords pertaining to CTC providers, gender and low- and middle-income countries (see appendix 1) to identify further relevant literature. Four databases were searched including SCOPUS, Medline, Cinahl and Global Health. Relevant papers were identified. Citation searches as well as searches of the reference lists of relevant papers were then performed, alongside ongoing consultations with experts to identify other papers of interest. A total of 58 papers met the study inclusion criteria (figure 2.1), these were then assessed for quality. Papers were then critically reviewed to assess impact of gender in CTC experiences and programmes and the authors' positionalities were analysed where explicit. Data were then independently extracted into a common data extraction table. This allowed for the development of themes, reflection and critique of papers with a particular focus on how gender norms and power relations shape CTC experiences and programmes. Themes, and the relationships between them, were then synthesised into a theoretical framework (Dixon-Woods et al., 2006b).

Figure 2.1 Flow chart of the systematic review selection process



2.4.1 Quality assurance

Stage 1: We reviewed and ran queries on the primary data (in the NVivo 10 files) and presented the findings back to the wider diverse group of researchers from the six countries via the conceptual framework over the course of the REACHOUT consortium meetings. This was done to trigger and capture in depth discussions, reflect on our own experiences and positionalities and to discuss the extent to which it reflected the different contexts

Stage 2: Aligned with the iterative approach to searching the literature adopted in critical interpretive synthesis and to enhance the trustworthiness of the analysis and identify further relevant literature, ongoing stakeholder consultation and critical reflections as a knowledge translation component was conducted (Arksey and O'Malley, 2005, Dixon-Woods et al., 2005, Dixon-Woods et al., 2006b). This involved presentations and discussions at conferences, in webinars and within the *Thematic Working Group on Strengthening and Supporting the Role of Community Health Workers in Health Systems Development*, of the Health Systems Global network (see appendix 1).

Identified papers were double read to decide suitability for inclusion. When the two readers (RS, RM) disagreed a third adjudicator was sought (MT). Two authors (RS, RM) independently reviewed each paper for quality using the recognised Critical Appraisal Skills Programme assessment tool for qualitative research studies (CASP, 2013), and came together to agree on a final score. The critical interpretive synthesis approach was followed: studies which indicated most relevance and quality, were given greater weighting in the synthesis (Dixon-Woods et al., 2006a, Dixon-Woods et al., 2006b) however, studies of all quality levels were included to give an overview of context globally, with an assumption that some methodologically weaker papers are theoretically and conceptually important (Entwistle et al., 2012, Ako-Arrey et al., 2016, Flemming, 2010).

2.5 Results

The results from the critical interpretive synthesis and the primary data collection are presented together according to the themes that emerged, and in relation to the individual CTC provider level, the community level, and health systems level. We present the gendered assets and challenges to health service provision and then describe opportunities for change and empowerment.

The interface of the CTC provider between the community and the health system (which the community is a part of) and how gender norms cut across the different levels and influence the factors is shown in figure 2.3. This is turn is mediated by other axes of inequity (shown on the left), and the political economy and health systems context (shown to the right). Table 2.2. displays studies included in the review by theme, and countries of mention by theme.

Figure 2.2 Conceptual framework. Shows the areas affected by gender across the levels of individual, community and health system, the relationship between them, and the complex interplay within the broader health and political environment

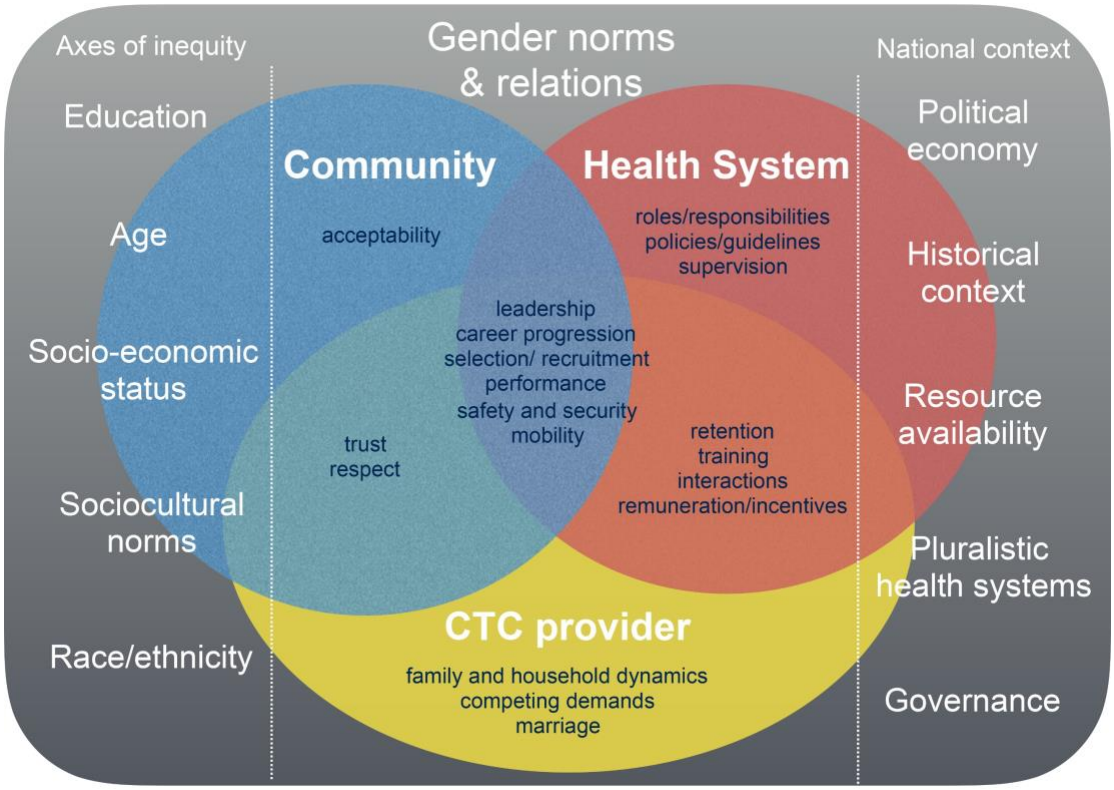


Table 2.2 Summary of papers reviewed by theme and country

Themes (factors affected by gender)	**Relevant studies**	**Countries of mention**
Influence of family and household dynamics	(Ahmed et al., 2017); (Alam and Oliveras, 2014); (Alam et al., 2012b); (Campbell and Ebuehi, 2011); (Condo et al., 2014); (Daniels et al., 2005); (Fotso, 2015); (Greenspan et al., 2013); (Hoodfar, 2010); (Jackson and Kilsby, 2015b); (Khan et al., 2012); (Miller et al., 2014); (Mumtaz et al., 2003); (Najafizada et al., 2014b); (Newman et al., 2011); (Nandi and Schneider, 2014a); (Nyanzi et al., 2007); (Olang'o et al., 2010); (Razee et al., 2012); (Rahman et al., 2010); (Saprii et al., 2015c); (Sharma et al., 2014b); (Tripathy et al., 2016)	Afghanistan, Bangladesh, Ethiopia, The Gambia, India, Iran, Kenya, Lesotho, Pakistan, Papua New Guinea, Rwanda, South Africa, Tanzania, Uganda
Safety and security	(Ahmed et al., 2017); (Fotso, 2015); (Hoodfar, 2010); (Jackson and Kilsby, 2015b); (Khan et al., 2012); (Miller et al., 2014); (Nyanzi et al., 2007); (Razee et al., 2012)	Ethiopia, Gambia, India, Iran, Pakistan, Papua New Guinea, Uganda
Acceptability	(Abbott and Luke, 2011); (Ahmed et al., 2017); (Alam et al., 2012a); (Alamo et al., 2012); (Elazan et al., 2016); (Feldhaus et al., 2015b); (Fotso, 2015) ; (Gittings, 2016); (Geldsetzer et al., 2017); (Hill et al., 2008); (Javanparast et al., 2011); (Jenkins, 2011); (Jenson et al., 2014); (Kipp and Flaherty, 2003); (Kambarami et al., 2016); (Katabarwa et al., 2001); (Miller et al., 2014); (Mohan et al., 2003); (Müller et al., 2010); (Mumtaz et al., 2015); (Najafizada et al., 2014b); (Newman et al., 2011); (Olang'o et al., 2010); (Uzondu et al., 2015)	Afghanistan, Bangladesh, Ghana, India, Iran, Kenya, Lesotho, Nigeria, Pakistan, Peru, Rwanda, South Africa, Swaziland, Tanzania, Uganda, Zimbabwe
Mobility	(Elazan et al., 2016, Ahmed et al., 2017); (Feldhaus et al., 2015b); (Fotso, 2015); (Hoodfar, 2010); (Jackson and Kilsby,	Bangladesh, Ethiopia, India, Iran, Lesotho, Nigeria, Pakistan, Rwanda, Tanzania, Uganda

	2015b); (Miller et al., 2014); (Mohan et al., 2003); (Müller et al., 2010); (Mumtaz et al., 2003); (Newman et al., 2011); (Rahman et al., 2010); (Saprii et al., 2015c); (Sharma et al., 2014b); (Uzondu et al., 2015)	
Working conditions, career opportunities and performance	(Alamo et al., 2012); (Bagonza et al., 2014); (Clemmons et al., 2002); (Crispin et al., 2012); (Daniels et al., 2005); (Daniels et al., 2012b); (Devkota and van Teijlingen, 2010); (Eskandari et al., 2016); (Jackson and Kilsby, 2015b); (Javanparast et al., 2011); (Jenson et al., 2014); (Katabarwa et al., 2001); (Kipp and Flaherty, 2003); (Miller et al., 2014); (Mohan et al., 2003); (Mumtaz et al., 2003); (Nyanzi et al., 2007); (Sharma et al., 2014b); (Topp et al., 2015); (Tripathy et al., 2016)	Cameroon, Ethiopia, The Gambia, India, Iran, Kenya, Nepal, Nigeria, Pakistan, South Africa, Tanzania, Uganda, Zambia
Remuneration and incentives	(Dorwie and Pacquiao, 2014); (Greenspan et al., 2013); (Jackson and Kilsby, 2015b); (Jenkins, 2009); (Miller et al., 2014); (Mumtaz et al., 2015); (Nandi and Schneider, 2014a); (Newman et al., 2011); (Olang'o et al., 2010); (Rahman et al., 2010); (Swartz and Colvin, 2015); (Topp et al., 2015); (Utomo et al., 2006)	Bangladesh, Ethiopia, India, Indonesia, Kenya, Lesotho, Pakistan, Peru, Sierra Leone, South Africa, Tanzania Zambia
Selection & recruitment	(Nandi and Schneider, 2014a)	India
Empowerment and Leadership	(Alam et al., 2012b); (Campbell and Ebuehi, 2011); (Condo et al., 2014); (Corbin et al., 2016); (Dorwie and Pacquiao, 2014); (Hoodfar, 2010); (Jackson and Kilsby, 2015b); (Jenkins, 2009); (Miller et al., 2014); (Mumtaz et al., 2003);(Mumtaz et al., 2013); (Mumtaz et al., 2015); (Nyanzi et al., 2007); (Najafizada et al., 2014b); (Saprii et al., 2015c); (Sarin and Lunsford, 2017); (Tripathy et al., 2016); (Utomo et al., 2006),	Afghanistan, Bangladesh, Ethiopia, The Gambia, India, Indonesia, Iran, Pakistan, Peru, Rwanda, Sierra Leone, South Africa, Tanzania, Uganda

2.5.1 Individual CTC provider level

2.5.1.1 Influence of family and household dynamics

Power relations can influence people's decision whether to become CTC provider. Lack of family support is a common challenge to taking up this work, as signalled across the international literature (Ahmed et al., 2017, Alam and Oliveras, 2014, Khan et al., 2012, Greenspan et al., 2013, Hoodfar, 2010, Rahman et al., 2010, Newman et al., 2011, Olang'o et al., 2010, Najafizada et al., 2014b, Saprii et al., 2015c, Sharma et al., 2014b, Miller et al., 2014, Nyanzi et al., 2007, Razee et al., 2012, Fotso, 2015, Daniels et al., 2005, Campbell and Ebuehi, 2011, Condo et al., 2014, Jackson and Kilsby, 2015b, Mumtaz et al., 2003, Tripathy et al., 2016, Nandi and Schneider, 2014a, Alam et al., 2012b). In Kenya, a study found that husbands and children of female volunteer CTC providers, perceive the work as of low economic value to the family, which negatively affects participation (Olang'o et al., 2010). Family disapproval was also cited as a reason for attrition among female CHWs in Bangladesh (Alam and Oliveras, 2014) and in Pakistan, a lack of family support is felt by Lady Health Workers (LHWs), as cultural norms dictate that it is 'disrespectful' for females to interact with members of the other sex (Mumtaz et al., 2003).

In Afghanistan, family support is often a necessity to the role as the male head of the family needs to give permission for some women to become CHWs (Najafizada et al., 2014b). Likewise, in Iran, obtaining a husband's permission is required for some women to leave the marital home and hold a job (Hoodfar, 2010). Where husbands refused permission for their wives to become a CTC provider this was linked to an unwillingness to give up control over the time and mobility of their wives, concerns that women's volunteer work might lead to neglect of family responsibilities, and fears about the safety of women going door to door (Hoodfar, 2010). Women used their initiative to devise strategies that would appease their families' concerns, e.g. by travelling in teams of two, indicating women's agency in strategies to expand their roles beyond the conventional restrictions of home and family (Hoodfar, 2010).

In CTC programmes where female CTC providers are required to live in the same community that they work in, marriage to someone from a different community can be another cause of attrition. Our primary data revealed that in rural areas of Ethiopia, Kenya, and Malawi

attrition or transfer among female CHWs was attributed to marriage that caused women to move out of their (home) village.

> *One of the [Health Surveillance Assistants] has been transferred... the other one was at Phare where there was a female [Health Surveillance Assistant] who has followed her husband to Dowa.*
> Health Surveillance Assistant, Malawi

In Ethiopia, strict policies that prevent female Health Extension Workers transferring to another health post, is a frustration for many women wanting to move to their husband's village. The policy has since been revoked but is rarely enforced, and forces partners to either live apart, or women to leave their position as a Health Extension Worker.

> *Agriculture development agents are getting transfer, education… We also have the right to get married. We have to be with our husband as like other sectors doing. There is a provision of government which says 'the wife and the husband should not separate due to work place'*
> Health Extension Worker, Ethiopia

From the literature, marriage, and its implications for relocation, was a factor that influenced attrition rates among female CTC providers. In Afghanistan, it is common for female CHWs to stop working when they get married and they are no longer willing to relocate for work (Najafizada et al., 2014b). These dynamics are also particularly acute in Pakistan where it is perceived to be shameful for a husband to relocate because of his wife's work (Mumtaz et al., 2003).

Emerging from our empirical research and the international literature was also the expectation that female CTC providers are expected to fulfil household chores and care for the children and elderly family members in addition to their work. For example, Accredited Social Health Activists (ASHAs) in India were reprimanded by their husbands or elders if they did not fulfil their traditional role as good 'daughters-in-law' by completing domestic duties and social obligations (Saprii et al., 2015c). In South Africa, female respondents reported being pulled between domestic duties and their role as a CTC provider in the community

(Daniels et al., 2005) and in Rwanda the varying and unpredictable intensity of the work was perceived to be detracting from time necessary for families (Condo et al., 2014). Attrition due to conflict with family commitments also came out strongly in the literature from Bangladesh (Alam et al., 2012a, Alam and Oliveras, 2014). These examples serve to highlight the multiple roles female CTC providers are asked to fulfil; often the main caregivers, it can be difficult for them, and their families, to justify volunteering their time, yet this remains largely expected of them.

2.5.1.2 Safety and security

Insecurity can affect performance among CTC providers. The REACHOUT consortium data indicated that safety was a challenge to service provision at night, and during the day in urban informal settlements in Kenya and Bangladesh, and to some degree in rural contexts in Kenya. In Kenya, there were reports of threats of violence by husbands in the community to CHWs wanting to conduct HIV testing, and reports of rape of CHWs. Participants suggested that female CHWs needed to be accompanied by security officers and called for attention to their safety.

> *...Security for the CHEWs [community health extension workers] is wanting; so many CHEWs have been raped in the course of their work by the clients. CHEWs need total security as they are also human beings, so we pray that if possible security should be provided. I know that at times it is not possible, for we pray if it is possible that this issue be looked upon.*
>
> CHEW, Kenya

Insecurity for female CTC providers was also an emerging theme in the literature (Ahmed et al., 2017, Khan et al., 2012, Fotso, 2015, Jackson and Kilsby, 2015b, Miller et al., 2014, Nyanzi et al., 2007, Razee et al., 2012, Hoodfar, 2010, Mumtaz et al., 2003, Dasgupta et al., 2017, HSG, 2016). In Odisha, India, ASHAs reported that safety was a concern and that they could not attend to expectant mothers at night as they were afraid to walk alone (Fotso, 2015). Similar concerns were felt in Papua New Guinea, where female CHWs would ask male colleagues or their husbands to escort them during night visits demonstrating a pragmatic,

problem solving approach taken to circumvent safety concerns (Razee et al., 2012). Evidently, further action over the safety concerns facing this cadre needs to be taken, both in the context of Papua New Guinea - which has one of the highest rates of gender-based violence in the world (HRW, 2016) - and globally; tragic events in India in 2016 also saw the rape and consequent suicide of an ASHA, Somwati Tyagi, during the course of her work (Dasgupta et al., 2017). Moreover, insecurity for CHWs can be particularly acute in conflict-affected settings. In times of conflict in the Democratic Republic of the Congo it is not uncommon for nurses to leave their posts for more secure locations leaving CHWs to take responsibility for clients. CHWs in the Democratic Republic of the Congo are commonly older women and they run a high risk of rape at the community level in times of conflict (HSG, 2016, Raven et al., 2015a).

Of particular note, the threat of violence and sexual harassment for female CTC providers is not only experienced within the community; the threat is also felt within the health system and demands attention. In Pakistan, LHWs were subject to sexual harassment from both upper management and lower level male staff within the health system (Mumtaz et al., 2003). This was particularly demotivating for the LHWs, and some reported harassment during training by their male co-workers as a cause of attrition (Mumtaz et al., 2003).

2.5.2 Community level

2.5.2.1 Acceptability

The sex of the CTC provider affected the acceptability and uptake of services in the community, shaped by gender norms, relationships and types of services offered. In all REACHOUT countries, female CTC providers were perceived to be more able than male CTC providers to encourage pregnant women to access facilities and in Mozambique and Malawi cultural norms formed a barrier to male CTC providers visiting women in their homes. This dynamic was corroborated in the literature (Abbott and Luke, 2011, Ahmed et al., 2017, Alam et al., 2012a, Alamo et al., 2012, Elazan et al., 2016, Feldhaus et al., 2015b, Fotso, 2015, Gittings, 2016, Geldsetzer et al., 2017, Hill et al., 2008, Javanparast et al., 2011, Jenson et al., 2014, Kambarami et al., 2016, Katabarwa et al., 2001, Kipp and Flaherty, 2003, Miller et al., 2014, Müller et al., 2010, Mumtaz et al., 2015, Najafizada et al., 2014b, Newman et al., 2011,

Olang'o et al., 2010, Mohan et al., 2003, Uzondu et al., 2015, Jenkins, 2009). Interestingly, a study in Uganda also found that female CTC providers had statistically significantly more female clients who kept family planning a secret from their spouses than male CTC providers (Kipp and Flaherty, 2003). This suggests a notion of greater trust between women in the community and female CTC providers; trusting relationships have also been shown to impact on performance and is crucial to CTC providers intermediary position (Kok et al., 2017).

These same gender norms can also impact upon the ability of CTC providers to perform their roles. Uptake of health services is often influenced by decision-making and norms at the community level. This in turn reinforces these norms within households (as household ideologies often reflect that of the community) and may constrain autonomy in decision-making within households. The REACHOUT consortium qualitative research documented the influence of socio-cultural norms, gender expectations, and relationships regarding household decision-making, where often husbands or mothers-in-law are the primary decision-makers.

> *My challenge is the communities couldn't accept what I told about health facility delivery. The pregnant woman wanted to deliver at home because her husband didn't permit her to deliver in the health facility.*
> Village midwife, Indonesia

This presents challenges for both female and male CTC providers in patriarchal societies, who negotiate situations where women may not be allowed to make decisions due to the influence of gender and generation. This was also demonstrated in the empirical research from Kenya, where patriarchal norms mean women who challenge their husbands' decisions are at risk of gender-based violence.

Male CTC providers may be well placed to gain male acceptance in receiving health messages in the community and help to transform gender norms. REACHOUT findings from Kenya found that the lack of male CHWs was perceived by the community to be a barrier to effective family planning and voluntary counselling and testing services for HIV.

The critical interpretive synthesis also demonstrated the complementary role of male CTC providers in increasing uptake of family planning services in India (Fotso, 2015). ASHAs perceived the introduction of male CTC providers as an opportunity to counsel men in the community, who were responsible for decision-making around their wives' health, that the ASHAs were previously unable to reach (Fotso, 2015). Nevertheless, male CTC providers may be a barrier to the uptake of services among women – in Lesotho men were less accepted as they were perceived to have ulterior motives in the care setting and female clients reported vulnerability to sexual exploitation as men were seen to be untrustworthy when it comes to sex (Newman et al., 2011). Men who did take on a caregiving role were stigmatised by community members, as caregiving was associated with a feminine social identity (Newman et al., 2011). In Tanzania, both male and female CTC providers were accused of conducting house visits due to adulterous motives; CHWs were encouraged to conduct house visits in male and female pairs to mitigate this (Feldhaus et al., 2015b).

Issues of mistrust of provider by sex emerged from our qualitative research, causing a barrier to service provision; husbands in Kenya were suspicious of young male CHWs visiting their wives at home, demonstrating how gender discrimination intersects with other axes of inequity such as age, and marital status to shape interactions between CTC providers and different household members.

> *There are gender and age barriers in the community... For example, the CHEW is a young man and they know that you are not married so when you visit the home the people will be wondering whether you are going after their daughters or their young wives... And when you are young lady and you are coming to talk about family planning, they will feel that you don't know what you are talking about since you are not married, and you have never given birth to a baby.*
>
> CHEW, Kenya

2.5.2.2 Mobility

Although communities may prefer female CTC providers for certain tasks (e.g. maternal health services), women may also face challenges at the community level. The challenges of restricted mobility can hinder female CTC providers' ability to do their job (Ahmed et al., 2017,

Elazan et al., 2016, Feldhaus et al., 2015b, Fotso, 2015, Hoodfar, 2010, Jackson and Kilsby, 2015b, Miller et al., 2014, Müller et al., 2010, Newman et al., 2011, Mohan et al., 2003, Rahman et al., 2010, Saprii et al., 2015c, Sharma et al., 2014b, Uzondu et al., 2015, Mumtaz et al., 2003). Cultural restrictions around women's movement obstruct both women's access to healthcare, and CTC providers access to client's homes (Alam et al., 2012a, Rahman et al., 2010, Najafizada et al., 2014b, Mumtaz, 2012b). To circumvent women's consequent poor access to healthcare in Pakistan, the government introduced LHWs (Mumtaz, 2012b, Mumtaz et al., 2003). However, these discriminatory social norms also meant that LHWs' movement was attributed to a loss in social status among the women performing this role, and lead to marginalisation of LHWs by their families and community members (Mumtaz, 2012b, Mumtaz et al., 2003). LHWs reported having to ask a brother, mother, or husband to accompany them on their duty rounds, limiting their ability to do their job (Mumtaz et al., 2003), the reasons why this was limiting were not explicit from the paper however this would likely lead to a dependence on another family member's availability and potentially infringe on CTC provider-client confidentiality. A study by Saprii *et al.* in India found issues of topography can also make female mobility difficult and these were exacerbated when combined with ethnic conflicts. These two things led to frequent road closures, insecurity, and were detrimental to health services (Saprii et al., 2015c).

Gender norms and their influence on mobility can have implications for the implementation of CTC programmes. This was demonstrated in Northern Nigeria where male CHWs were provided motorcycles by the local government (Uzondu et al., 2015). Female CHWs however, were prevented from exposing their legs due to conservative Islamic beliefs and were not allowed to use motorcycles until programme developers held an advocacy meeting with traditional leaders in which they consented to women riding 'gender sensitive' motorcycles that did not expose their legs (Uzondu et al., 2015). Similar dynamics were shown in the Afar region of Ethiopia, where the few male CHWs were provided with bicycles (Jackson and Kilsby, 2015b). The men expressed discomfort with the situation and would have liked to see their female colleagues be given the same benefit (Jackson and Kilsby, 2015b).

Gendered religious customs were also found in Afghanistan where it is preferable to have both a male and female CHW at health posts yet Islamic law dictates men and women cannot

interact unless they are '*mahram*' – relatives of the other sex (Najafizada et al., 2014b). Such belief systems may have repercussions for the health system in recruitment and employment of CTC providers and serve to highlight the complexity of gender relations and their connection with faith. In India ASHAs are also limited by religious boundaries, where Hindu ASHAs were not able to enter Muslim homes (Sarin and Lunsford, 2017). There are also instances where faith enables CTC providers to transcend cultural norms. For example, in South Africa a male pastor interpreted his ability to provide intimate care, traditionally deemed female labour, not because of his commitment to challenge gender norms, but because of his Christian ethic of care (Swartz and Colvin, 2015). In Bangladesh, unmarried CHWs were referred to as 'girls' (as opposed to women) and felt uncomfortable moving around the community, this was overcome once they started to wear a Muslim headdress '*niqab*', increasing their confidence when travelling (Rahman et al., 2010). This demonstrates the power of observing religious customs over adhering to gender and socio-cultural norms, in building trust and respect within the community.

2.5.3 Health system level

2.5.3.1 Working conditions, career progression and performance

The REACHOUT consortium data from Malawi revealed that although Health Surveillance Assistants in Malawi are both male and female, men are more likely to be in supervisory roles. Low female education and literacy were cited as reasons for women's lower position in the health system hierarchy, emphasising the intersect between gender and education. In REACHOUT data from Ethiopia, a lack of career advancement opportunities were a cause of demotivation and attrition among Health Extension Workers.

The lower position of women within the health system may also not solely rely on education and other opportunities for skill development. In Afghanistan, restricted mobility was cited as a barrier to women taking on supervisory roles (Najafizada et al., 2014b). Challenges of the competing demands that women face with regards to their domicile status may also make upward mobility for women more difficult. A lack of opportunities for women to advance also means that women have less opportunity to improve their socio-economic status. In Pakistan, LHWs have had minimal increase in salary, including those with 30-40 years of service

(Mumtaz et al., 2003). This, coupled with a lack of clear job descriptions for LHWs, and an expectation they will perform whatever task is required, leads to demotivation and poor performance (Mumtaz et al., 2003). In India, lack of clear job descriptions and lack of promotion for good performance alongside an absence of 'employee status' for female ASHAs also led to frustration (Sharma et al., 2014b). Of note, these issues were raised in female only CTC provider programme contexts and begs the question: would this be acceptable for men? Jackson and Kilsby argue this question should be the litmus test for decisions around working conditions for female health extension workers in Ethiopia (Jackson and Kilsby, 2015b), but we would argue this should be extended to all female CTC provider programmes.

A study on community antiretroviral therapy and tuberculosis treatment supporters in Uganda, found that males lost more patients for follow up than females (Alamo et al., 2012). A study in Kenya demonstrated that while male CHWs were 60% more likely to keep better records than female CHWs, women were 58% more likely to counsel and 71% more likely to be able to convince their clients to adopt evidence-based maternal care practices than men (Crispin et al., 2012). Similarly, in Lesotho women saw themselves as having a greater ability to talk clients into adherence (Newman et al., 2011). In Kenya, it was not only ability that was affected by gender, but roles and responsibilities. Male CTC providers were suggested to be fearful of performing certain tasks e.g. changing soiled bedsheets and washing patients – it was suggested that only women possessed the tolerance to be able to perform these duties and many women saw it as their 'natural duty' (Olang'o et al., 2010).

When appropriate and supportive policies are not in place, reproductive roles can also impact upon performance due to frequent absenteeism due to pregnancies and other maternal health issues. Sharma *et al*. reported that as many ASHAs belong to the reproductive age group (25-40 years), frequent periods of maternal leave affected service delivery; though noted this was in part due to the absence of any government policy to make interim arrangements during an ASHA's maternity leave (Sharma et al., 2014b). In Ethiopia, working through pregnancies and menstruation periods was mentioned as a hardship for female Health Extension Workers, who would continue to walk long distances during these periods (Jackson and Kilsby, 2015b).

2.5.3.2 Remuneration and incentives

Lack of proper remuneration can be a cause of high attrition rates among CTC providers, which can have negative effects on the cost-effectiveness and sustainability of programmes. The REACHOUT consortium qualitative research found that attrition rates of male volunteers in both rural and urban areas in Kenya and Malawi were high due to the gendered role of men as breadwinners, making commitment to a voluntary role challenging.

> *...[in] slum sectors where the guys are working in a casual business, you will find out that you have recruited so many guys, that is the men, but by the end of it all you will find that men do go for some job outside the area in the day time and come back at night. Women are the ones who most of the times stay around, so we have to consider that one.*
>
> CHEW, Kenya

Remuneration also came out as a theme in the literature (Greenspan et al., 2013, Jackson and Kilsby, 2015b, Jenkins, 2009, Miller et al., 2014, Nandi and Schneider, 2014a, Olang'o et al., 2010, Rahman et al., 2010, Swartz and Colvin, 2015, Topp et al., 2015, Utomo et al., 2006, Newman et al., 2011, Dorwie and Pacquiao, 2014). One study from Zambia found that women were significantly more likely than men, to agree that they joined an HIV volunteer programme because they wanted "*to receive things and allowances*", "*get a paying job*" or because they "*have no job*" (Topp et al., 2015), highlighting the disparity between paid career opportunities for men and women. In Lesotho, lack of payment for HIV-related caregiving reinforced the gendered segregation of the caring role, where women and girls make up the most of the informal and largely unpaid care workforce (Newman et al., 2011). The community perceived men's free labour as a farce, whereas women were expected to work for nothing (Newman et al., 2011). Typically, women are 'vertically segregated' to lower, less well-paid jobs and it has been argued that gender segregation in the labour market is also of the most profound and enduring dimensions compared with segregation by race or class (Newman et al., 2011). An intersectional lens is also particularly important in understanding remuneration in low and middle-income countries where women are often at the lower end of the gender-class-socioeconomic hierarchy (Mumtaz et al., 2003).

Payment needs vary across contexts. In rural and urban Sierra Leone female traditional birth attendants are often the breadwinners of the family (Dorwie and Pacquiao, 2014) and rely on income generated from the role. Lack of, or irregular, payments can also impact on performance and relationships with the community as demonstrated in the ASHA programme in India (Saprii et al., 2015c). ASHAs felt unable to manage the basic needs of their families and children's education which resulted in pressure from husbands and family members to discontinue their role (Saprii et al., 2015c). Highlighting the complexities of how social norms and beliefs play out across contexts, in some settings volunteer status is a necessity for social acceptance. In Iran, alongside the salaried CHW programme that recruits both men and women, a female only Volunteer Health Worker cadre has been in existence since 1992. The volunteer status of this all-female cadre aligns with social norms that dictate women should not earn money (Hoodfar, 2010). This is in part due to men feeling their position of authority over their wives is derived primarily from their economic power; a voluntary status meant husbands were more accepting of their role, and were proud of the knowledge and respect that their wives have earned (Hoodfar, 2010). Nevertheless, programmes need to be able to evolve. While voluntary roles may have been historically necessary to gain acceptance, once the role is established, the issue of remuneration should be re-evaluated to ensure women are not being exploited and can gain economic independence.

2.5.3.3 Selection and recruitment policies

The REACHOUT consortium qualitative data demonstrated the role village heads and village health committees play in influencing the selection and recruitment of CTC providers. However, there are also gendered factors that may influence recruitment of CTC providers. In Mozambique, the stipulation that Agentes Polivalentes Elementares attend a four-month residential training programme may make it difficult for women to take up the role due to gendered household responsibilities. In addition, women's poorer educational status means men are more able to fill the roles.

> *In the community, a majority of us women didn't get the opportunity to go to school; our fathers didn't allow us to go to school. And in the APE [CHW] activities you must know how to read and write in order to not give the wrong medicine to the community. …Some women know how to write and read; however, some husbands refuse to allow*

their wife to become an APE, arguing that she will have a relationship with other men during the training and that she will not have time to take care of the household and the children.

Mother, Mozambique

In India, when selecting CTC providers for the Mitanin programme, the community and village council members considered factors such as mobility, ability to speak, leadership qualities, availability of time and family obligations, along with her being from the same village and of the same socioeconomic profile (Nandi and Schneider, 2014a). For programmes that select both male and female CTC providers these types of considerations may inadvertently preference men.

2.5.4 Overcoming gendered challenges to CTC programming through trust, empowerment and leadership

Despite the above limitations for females, being a CTC provider can be an empowering experience. While this is true for both men and women, the effects can be more pronounced for women. The REACHOUT consortium data from Bangladesh found that trust and respect for CTC providers from community members enabled women to gain confidence in negotiating challenges, and largely work freely and without difficulty outside the home.

No, I don't face any problems. I go at 2.00am too. No one says anything. Even the Mafias [referring to the leaders of local thugs] don't say anything to me. Their children's delivery also happens by my hand. They know that they need me. If I go somewhere late at night, they understand that I have a delivery to attend. That day I went to Kolapara at 2.00am. On the way I met a Mastan [referring to a greatly feared local leader]. He asked me, 'Aunty, where are you going?'. I told him, 'Kolapara, a patient's house.' He told me, 'You can go, Aunty. There's no problem. If there's any problem, just tell them my name.' Then I said, 'You guys are the Mastans. If you don't do any harm to me, who else would do it?' I talked like this. They respect me. That's why he didn't say anything.

Dai (village midwife), Bangladesh

Gender roles and relations are in flux; and empowerment of female CTC providers has been seen across many contexts (Alam et al., 2012b, Campbell and Ebuehi, 2011, Condo et al., 2014, Corbin et al., 2016, Dorwie and Pacquiao, 2014, Hoodfar, 2010, Jackson and Kilsby, 2015b, Jenkins, 2009, Miller et al., 2014, Mumtaz et al., 2015, Mumtaz et al., 2003, Mumtaz et al., 2013, Najafizada et al., 2014b, Nyanzi et al., 2007, Saprii et al., 2015c, Sarin and Lunsford, 2017, Tripathy et al., 2016, Utomo et al., 2006, HSG, 2016, Newman et al., 2011, Daniels et al., 2005, Nandi and Schneider, 2014a). In Afghanistan, being a CHW enables women to move more freely in the community in order to visit other women in their homes. This was reported to be an empowering experience for female CHWs (Najafizada et al., 2014b). In Palestine, building trusting relationships with village steering committees, village councils, and the wider community helped overcome issues female CTC providers faced around lack of mobility and acceptance (HSG, 2016). Community acceptance of female CTC providers also contributed to acceptance of other working women in the community. Palestinian female CHWs have become highly respected members of the community, serving as role models for other women (HSG, 2016).

CTC providers have also emerged as local leaders in a space where women may contribute in a limited way to local politics. In Pakistan, Mumtaz *et al.* found that changing aspirations, coupled with economic benefits, are some of the reasons women seek work as a LHW (Mumtaz et al., 2003). Women's potential to contribute to the economy of the family is being recognised by women and their families – representing a fundamental change in the cultural norms that govern this society (Mumtaz et al., 2003). In Iran, the opportunity for women to adopt a public role in the health worker programme has led to more democratised households (Hoodfar, 2010). Like Pakistan, Iran has also seen the emergence of women as local leaders and political activists. Volunteers have become skilful in gaining support from the Ministry of Health and became involved in advocacy via petitions and local media campaigns to lobby for broader health and well-being services for the community (Hoodfar, 2010). In India, where women are usually excluded from becoming members of the village council, ASHAs proactively negotiated with the community and helped to set maternal health as a priority in the village development agenda (Saprii et al., 2015c) suggesting gender transformation is occurring at the community level.

In South Africa, the role of a Lay Health Workers has allowed women to feel empowered to seek further skills, opening up opportunities for development (Daniels et al., 2005) and in Lesotho, the caregiving role was seen as a source of power for women in the community (Newman et al., 2011). Research from India also found that the position of ASHA allowed women to take on a separate identity from their husband or father and they were seen as more than just 'somebody's wife', or 'somebody's daughter' (Sarin and Lunsford, 2017). Critically, another study on the ASHA programme found the position transformed harmful gender norms and meant some women were no longer at risk of gender based violence in their own homes, as they worked to address this issue within the community (Nandi and Schneider, 2014a).

2.6 Discussion

This paper synthesises empirical research and literature from multiple sources and country contexts to demonstrate the ways in which gender norms and power relations shape CTC providers' experiences and interactions at individual, community, and health systems levels. While there is growing interest in gender and human resources for health, the focus on CTC providers brings additional insights into an often-overlooked cadre of health workers and gives direction to generalisable priorities and lessons for policy and practice.

2.6.1 Gender interactions are complex and in flux

Health professionals' experiences at all levels of the health system are shaped by gender norms and power relations (Dhatt et al., 2017b, Standing, 2000). Most navigate gender norms from an institutional space in which they interact with communities but leave at the end of the day. By contrast, CTC providers predominantly operate within their own community and household spaces and continuously navigate relationships from the bottom up and within the existing hierarchies on a constant basis.

The conceptual framework demonstrates some of the ways gendered relations act on CTC providers at different levels in ways which interlink, are complex and vary by context. For example, safety and security cuts across all three levels of our conceptual framework: it

impacts on individual CTC providers' own experiences of safety, both within the community and the health system, and how safe they feel in their daily role. It also influences individuals within the community in the form of neighbours and family members who may be recruited to help ensure CTC provider safety. Similarly, recruitment is shaped by both community norms and the health system, including the policies that dictate choice and procedures.

Current policies and ways of working are implicitly set to male norms; greater female representation in policy making positions is crucial to bringing about change in this area (Standing, 2000). For example, in Mozambique, policy dictates all new Agentes Polivalentes Elementares must undergo four months of training, which brings challenges for some women due to domestic and childcare obligations. Bringing a stronger gender analysis to CTC programme policies is vital to ensuring gender equity and sustainability within CTC programmes.

Women working as CTC providers in a patriarchal society are presented with many challenges. Nevertheless, the notion of empowerment came out strongly from several contexts as something that sets apart female CTC providers from other women in the community. In some settings women were attracted to the role because of the gender inequality in their community and they saw the position as a way to improve social status, upgrade their education and as a potential conduit into higher-level jobs within, and outside, the health system.

2.6.2 Policy implications for CTC programmes

Context matters in health systems; focussing on CTC providers highlights this as gender, poverty, power and other axes of inequality play out in different ways at the community level (Theobald et al., 2016). Whilst there is no blueprint for how gender impacts CTC providers, our results have shown that there are similarities across contexts allowing comparisons and recommendations for policy to be drawn. Based on this we present key areas for policy consideration:

1. **Safety** - Laws and policies that protect women who are working as CTC providers are of paramount importance. Everyone deserves the right to feel safe and protected by their employer and CTC providers are no different; ensuring safety of this cadre is important for realising universal health coverage and supporting female empowerment. Our findings have highlighted that patriarchal relations can manifest in particularly violent ways within many different settings which should prompt the health sector to introduce health and safety measures to protect those they have a duty of care to.

2. **Remuneration** - Literature demonstrates that women are paid far less than their male counterparts and undertake a significant portion of unpaid work (Sen and Ostlin, 2008). Remuneration in CTC provider programmes varies greatly, some are volunteers without any incentives or financial compensation whereas others are formally employed and paid salaries by the health sector. Unpaid or poorly paid positions tend to attract women who may have more limited prospects to secure other paid work (Newman, 2014b). Yet, by paying female CHWs a rate that is not deemed 'acceptable' for men CTC provider programmes are further perpetuating the inequalities that exist and placing women at further risk of male power. Women's unpaid caring work needs to be formally recognised and valued to break the harmful gender norms that assume women are easier and cheaper to hire and that the women's labour is more pliant. Labelling the work as 'voluntary' also reinforces the perception that women have domestic duties they need to work around. This should be accompanied by strict recruitment criteria as programmes that promote payment of CHWs may also have unintended consequences. For example, in Mozambique, the revitalised CHW policy had an explicit preference for selecting women (MISAU, 2010), however in practice communities selected men to play this role. The reasons for this are unclear but one theory is that men as 'breadwinners' are perceived as more deserving of paid work. Again, this is an area where policies accompanied by an enabling environment towards selecting women could empower female CHWs and enable men to pursue more traditionally female roles.

Career progression opportunities and participation in leadership - There is a growing body of analysis concerning gender inequities in leadership within the health sector at international, national and institutional levels showing how women are under-represented in leadership roles (Dhatt et al., 2017b). Arguably, male and female CTC providers are leaders within their own community. However, evidence shows that female CHWs are less likely to advance into decision-making positions as leadership roles are often reserved for men (Sen and Ostlin, 2008, Newman, 2014b, Campbell et al., 2009). These opportunities for professional development and promotion within CTC programmes are often lacking. This needs to be built into the system of CTC programming to encourage women to progress into higher levels of the health system and leadership positions if they so desire and provide the opportunity for women to input into health systems policy development (Mumtaz et al., 2015, Najafizada et al., 2014b, Daniels et al., 2012b, Jackson and Kilsby, 2015b, Campbell and Ebuehi, 2011, Campbell et al., 2009).

CHWs are often unable to influence strategic level outcomes at work, such as priority setting, or resource allocation and planning (Kane et al., 2016b). By giving CTC providers a platform to input into policy development we would not only contribute to their empowerment, but also promote their role as agents of social change. In turn, this may challenge some harmful gender norms and build opportunities for them to realise their potential to build more responsive and inclusive health systems. Finally, workplace policies need to be put in place that support women in balancing paid employment and the domestic roles that disproportionately fall upon their shoulders. In addition, measures like maternity leave and sickness pay can assist female CTC providers in remaining in employment.

Health systems are microcosms of the societies they serve, mirroring and reinforcing norms and practices that are often gender inequitable and harmful. CTC providers have been shown to internalise and reflect the gender and socio-cultural biases of their environment (Sarin and Lunsford, 2017). The health sector has a duty to reduce harm and foster well-being. Action to redress gender inequity and tackle other violent structures is arguably part of their core remit. The health system can be a mechanism for societal transformation, but first it must be aware

of its own failings and weaknesses. While the health system does not enact policy and programmatic change to address the harmful impacts of gender inequity, we miss opportunities to work towards the fifth SDG. (UNDP, 2015).

2.6.3 Strengths and limitations of the approach

This paper draws on two different strands of evidence and approaches which is not standardised and there was not a single coding system across the two strands of evidence. However, given the emergent nature of this topic we felt it was important to synthesise evidence from different sources to present a global overview of current state of knowledge. The critical interpretive synthesis methodology undertaken corroborated our findings and the synthesis adds range of contexts covered and helps to provide a global overview. A limitation of the critical interpretive synthesis process was that due to the large body of papers identified for inclusion and the lack of detail on author positionality, we were not able to critically discuss how the underlying studies were constructed in detail. We are also unable present the nuances of the socio-cultural norms and changing gender norms within each context. For example, there are changes in how the CTC provider role is perceived and in many communities there is less aspiration for young women to enter this role, particularly while it remains unremunerated (Raven et al., 2015a). Female CTC providers also want more for their young daughters (Jackson and Kilsby, 2015b); the position is changing with time and context yet they are treated as a homogenised group. This highlights the need for more country-specific focussed research exploring gender norms framed within a historical context for CTC providers.

Gender influence was not explicitly built into our qualitative research design but emerged inductively. As we did not set out to investigate this, we missed opportunities to probe more deeply across the different levels and we were unable to link these findings to programme impacts. Our research was also limited to current CTC providers' experiences. Hearing from ex-CTC providers may have produced interesting findings around attrition due to gendered experiences. The critical interpretive synthesis was limited to only English language only, however ongoing stakeholder discussions ensured that research from many different global

contexts was included. Finally, whilst the themes have been conceptualised from an intersectional standpoint, the data does not allow us to fully disaggregate in this way.

2.7 Conclusion and way forward

Gender norms are context specific and thus there is no blueprint for gender responsive CHW programming. Furthermore, CTC providers are not homogenous groups - gender intersects with other axes of equity, which all play a role in shaping gendered experience. Principles of gender equity however, can be applied in all settings and will require a cultural shift to address broader power relations. Creating gender transformative policies would be a suitable starting point to ensure CTC providers are appropriately supported to overcome the inequalities that they face and so that they can take full advantage of their unique position as agents of societal and social change.

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Chapter 3: Methods

3.1 Chapter overview

The overarching aim of my thesis was to explore how gender norms and relations shape both CHWs' working lives, and how CHW policies and guidelines play out across differing contexts from a gendered perspective. I designed a multi-method exploratory qualitative study to achieve this aim; the study comprises three individual components of research. First, key informant interviews were conducted to set the international context and meet research question - *What is the current status of, and discourse on, gender responsive community health worker policy?* Next, two purposively selected country specific studies were conducted in Mozambique and Ethiopia using a series of in-depth interviews and focus group discussions with CHWs, their supervisors and community leaders. These studies were designed to answer the following research questions respectively – *how can the health system enhance gender responsive strategies to support recruitment and retention of both male and female Agentes Polivalentes Elementares in Maputo province, Mozambique?;* and – *what are the gendered experiences, and unintended consequences of mobile technology for Health Extension Workers in Sidama Zone, Ethiopia?*

A consolidated summary version of the methods for each individual study is included within the result chapters. This chapter provides an opportunity to present more detailed methods situated within the context of feminist epistemology and allow for deeper discussion into the reflexive approach taken as well as the limitations.

This chapter will provide:

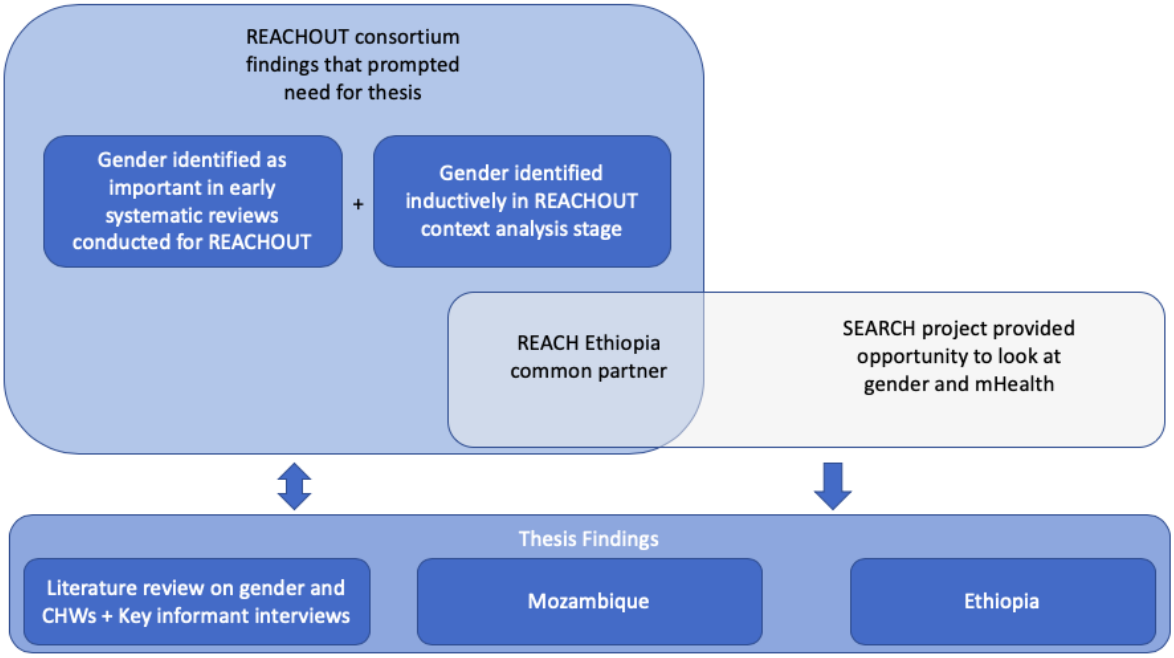
- An overview of my position with regard to the REACHOUT consortium and the SEARCH project
- Theoretical underpinning for the study and methodological justification
- Participant selection, data collection and analysis methods used
- Documentation of quality assurance mechanisms undertaken, including reflexivity
- Key ethical concerns relating to the study
- Limitations of the methodology

3.2 Position within REACHOUT consortium and links to the SEARCH project

REACHOUT was a five-year international research consortium that ran from 2013- 2018 and funded by the European Commission's FP7 Framework for Health. REACHOUT's aim was to maximise the equity, effectiveness and efficiency of CHWs and other close to community providers in promotional, preventive and curative primary health services in rural areas and urban slums in six low- and middle-income countries (Bangladesh, Ethiopia, Indonesia, Kenya, Malawi, Mozambique). A common-approach to mixed methods research was taken across the six countries, using a common analytical framework (De Koning et al., 2014). REACHOUT consisted of three main research phases: an initial context analysis; a first quality improvement cycle aiming to improve CHW performance and a second quality improvement cycle which sought to embed quality improvement approaches.

My thesis was completed in collaboration with the REACHOUT consortium. Within the consortium there were a number of senior investigators with a specific interest in gender and health and who also were a gateway to other networks and interest groups. I therefore had opportunity to link with the SEARCH project (a separate project and funding stream but linked to REACHOUT) as part of my thesis via the team from REACH Ethiopia who were a common partner between SEARCH and REACHOUT. The SEARCH project aimed to explore the feasibility of using mobile technology with Ethiopia's Health Extension Worker cadre to strengthen the health management information system (HMIS) in Southern Ethiopia and was funded by the International Development Research Centre (IDRC). Linking with this project enabled me to broaden the scope of my research beyond what was possible within REACHOUT to explore the impact of new technologies for CHWs, and the gendered implications of this. The relationship of my thesis within these projects is explained in figure 3.1. Figure 3.1 shows how the need for the thesis arose from REACHOUT findings, and the thesis findings in turn informed REACHOUT findings. The box on the left identifies the two elements that evolved from both REACHOUT data and the thesis findings and contributed to a publication on gender and close to community providers in Social Science and Medicine (Steege et al., 2018b). The SEARCH project was able to extend the thesis findings to explore how mHealth impacts CHWs from a gender perspective.

Figure 3.1. Thesis linkages with REACHOUT and SEARCH projects



A timeline of my thesis journey is shown in figure 3.2. At the start of my thesis journey, October 2015, I was able to attend the fifth REACHOUT consortium meeting in Indonesia where all partner countries attended with a policy-maker partner. This was an early opportunity to meet and build relationships with my colleagues across contexts. It also allowed me to learn about gender norms and relations impacting CTC providers in all six contexts from my colleagues' experiences, and also from policy-makers perspectives, to help inform my study design. I collaborated with teams from Mozambique and Ethiopia who had just collected the first quality improvement data and presented the rationale for my research to my colleagues for feedback. At this time a literature review on performance of CHWs (Kok et al., 2014) and the context analysis reports (Sidat et al., 2014, Mireku et al., 2014, Zerihun et al., 2014, Nyirenda et al., 2014, Gani et al., 2014, Nasir et al., 2014) were published, which informed my study.

In February of 2016 I had the opportunity to input into a webinar held by Health Systems Global[3], in collaboration with REACHOUT, CHW Central[4] and Research in Gender and Ethics (RinGs)[5] "Community Health Workers: The Gender Agenda". The webinar was focussed on the importance of gender for community health workers and provided an opportunity to hear from different contexts and collaborate with other people with an interest in this area. This was part of a month of events ahead of International Women's Day and elicited strong participation and questions from attendees (Steege et al., 2016)

By the subsequent REACHOUT meeting, in Bangladesh May 2016, I developed my thesis methodology further and was able to present my methodology and study design for feedback. At this time, colleagues from LSTM and REACH Ethiopia who were working within the REACHOUT consortium were also involved in the SEARCH project (described earlier). Linking to this project enabled my research to ask pertinent questions relevant to the future of community health work – namely, what are the gendered implications of guidelines introducing a new technology for this cadre? In July of 2016 I visited REACHOUT and SEARCH team members - Daniel Datiko and Aschenaki Kea - at REACH Ethiopia in Hawassa to understand the context, build links, finalise plans and seek ethical approval for my research which was due to begin in early 2017.

My research in Ethiopia was conducted during January-February 2017. Following this, and ahead of my research in Mozambique, I visited Kenya for the seventh, and penultimate, consortium meeting. During this meeting we held a gender symposium on women in the changing world of work to mark International Women's Day on 8th March. This afforded an

[3] Health Systems Global is a membership-based society which aims to convene researchers, policymakers and implementers from around the world to develop the field of health systems research. See: https://www.healthsystemsglobal.org/

[4] CHW Central is an online community of practice that brings together programme managers, experts, practitioners, researchers, and supporters of CHW programs. See: https://www.chwcentral.org/about-chw-central

[5] RinGs brings together a team of experts and academics from around the world to do health systems research and policy analysis in LMICs with an approach that aims for gender transformation. See: https://ringsgenderresearch.org/

occasion to hear from Kenyan researchers and policy makers in the field, and discuss the gaps in gender-responsive policy making (Hawkins et al., 2017).

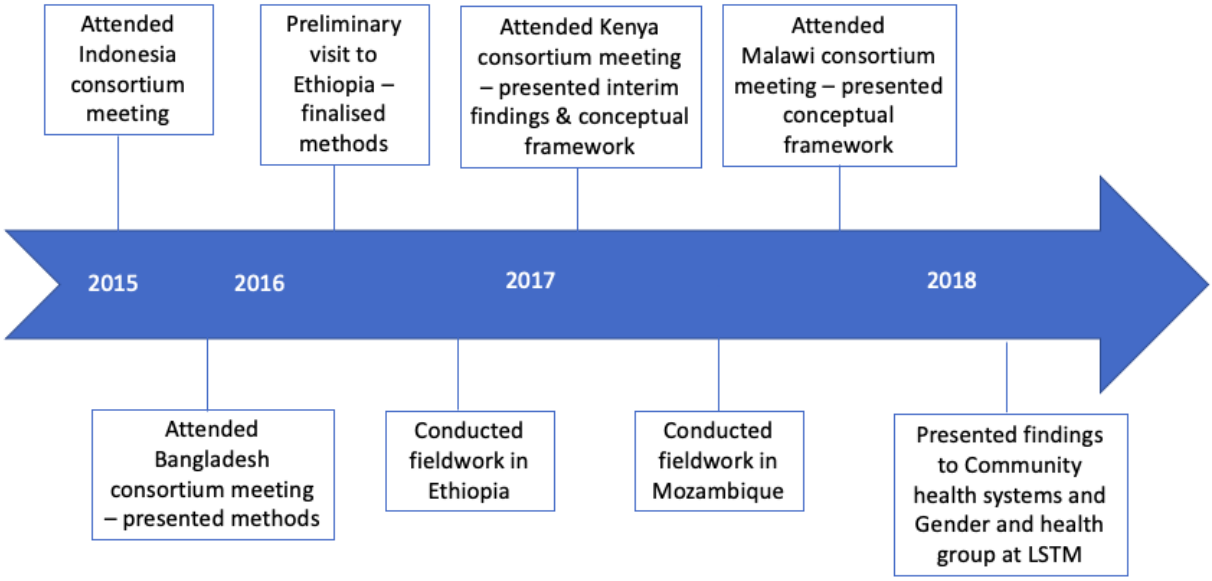
At the Kenyan consortium meeting I presented findings from initial key informant interviews I had begun conducting and interim findings from Ethiopia for feedback. During this visit I collaborated with colleagues from each country context further to develop a paper, on which I led and formed the basis of my literature review chapter. This paper presented the gender findings from the context analysis together with the findings from the gender specific literature review. I was able to present a conceptual framework demonstrating the ways in which gender relations impact on CHWs' working lives, to colleagues at this meeting to gain feedback and ensure it spoke to all contexts.

In May of 2017 I conducted my fieldwork in Mozambique alongside colleagues Sozinho Ndima and Celso Give, who were collecting data for the second quality improvement cycle. Finally, in September 2017 I attended the final Malawi consortium meeting where the final version of the paper based on the literature review was presented for feedback to all co-authors present. During this meeting I collaborated on papers with colleagues from Mozambique on findings from data that was collected at the same time as my fieldwork.

Throughout the course of the three-year period that I was a member of REACHOUT, a consortium with particular strength in qualitative and community health systems research, I gained an enormous appreciation for the complexity of health systems approaches and the differing realities of CHWs across contexts. Through constant dialogue and discussions with consortium members across the six contexts I was able to refine my thinking of gender and the power relations at play. The meetings acted as a forum for peer checking and knowledge translation of themes that resulted from my research, through which I was able to shape and refine my conceptual framework that guided the theory generation (more detail on this is discussed under Quality Assurance - see 3.5).

I was also able to utilise key working groups at LSTM, namely the Community Health Systems group and the Gender and Health group to present my findings and gain feedback at annual meetings.

Figure 3.2 Timeline of my thesis journey



3.3. Theoretical underpinning for data collection methods

3.3.1 Epistemological position

> *We have always sought explanations when it was only representations that we could seek to invent.*
>
> Paul Valéry (20th c. French poet & philosopher)

I designed this thesis to answer questions about the gendered realities of CHWs' interface with the health system and with communities. In gender research, there is a need to question the dominating epistemology in medicine (Hammarstrom, 2007). This research therefore takes a constructivist epistemological position. Constructivism, rooted in philosophy, education and social constructivism rejects the positivist notion of an objective reality. Instead, constructivism denotes that reality is independent of human thought but meaning or knowledge is a human construction (Oxford, 1997). A naturalistic inquiry was adopted in order to understand the experiences of CHWs in their societal and cultural context (Lincoln and Guba, 1985). The naturalistic paradigm understands there to be multiple realities which are influenced by social, historical and individual context. Reality is therefore constructed in the

minds of individuals. My responsibility as a researcher was to understand and represent these constructed realities - a philosophy known as 'subtle realism' (Mays and Pope, 2000). This theoretical underpinning meant that a qualitative approach to research was adopted which intended to generate knowledge grounded in human experience (Sandelowski, 2004). Constructivism aligns closely with feminist theory and intersectionality approaches, in that there is no objective reality - there is not just one masculinity or femininity but several, which are constructed by individuals in relation to historical, social and cultural circumstances (Hammarström and Hensing, 2018). These theories were important in guiding the qualitative methodology and are discussed in more detail below.

3.3.2 Conceptualising gender

Gender is an influential ideology, which produces, reproduces, and legitimates the choices and limits that are predicated on sex category (West and Zimmerman, 1987). It can be said that all societies have a gender order constructed by multiple ideas about what is seen as feminine or masculine (Connell, 2002). Commonly misunderstood, gender is often categorised into the dichotomy of male and female and the disparities between the sexes; masculinity and femininity are seen as natural opposites and the gender roles that they prescribe to are seen to influence health (Connell, 2012, Harrison, 1978). This essentialist approach sees gender as unchanging and fixed, determined by sex and risks exaggerating the biological and sociocultural differences between men and women (Hammarstrom, 2007). It is increasingly accepted that gender as a concept is a spectrum and needs to go beyond the binary of male and female (Alex et al., 2012). Individuals that identify as gender non-conforming, non-binary or transgender may face additional stigma or discrimination that can adversely affect their health (Kattari et al., 2015, Socías et al., 2014).

Another common misconception that is prevalent in the discourse of gender and health is the conflation of gender and women. This is evidenced by health policies and programmes that take a gender approach largely targeting women as a separate group based on the health needs that arise due to their reproductive roles, while men and boys are neglected as actors in gender transformation (Connell, 2012). This can also be detrimental given that patriarchal gender orders that subordinate women lead to gender dynamics that are not just related to

women's vulnerability or empowerment but centrally involve masculinities and the agency of men (Connell, 2012).

In gender analysis it is important to understand how gender and power structures are created and inequalities created, exacerbated or challenged, which is another limitation of the essentialist viewpoint (Connell, 2012, Hammarström and Hensing, 2018). Post-structuralist theory, influenced by the work of Foucault (1980) developed as a critique of the essentialist viewpoint of gender and sees gender subject to positions in discourse, and therefore to some degree, fluid (Connell, 2012, Foucault, 1980). Despite a focus on cultural process, post-structuralist approaches have not been used widely in health policy as they neglect the gender dynamics of political economies of health (Doyal, 1995), occupational health (Messing and Mager Stellman, 2006) and health care professions (Connell, 2012, Newman, 2014a). Connell (2012) puts forward relational theory as the antidote to this (Connell, 2012).

Relational theory is built on the belief that gender structures are embedded in a multi-dimensional structure of relationships, among other contextual factors e.g. law, economics and technology. Relational theory focusses on the patterned relations that constitute gender as a social structure (Connell, 2012). It therefore acknowledges gender's complex effects on health, understanding it to be "*multidimensional: embracing at the same time economic relations, power relations, affective relations and symbolic relations; and operating simultaneously at intrapersonal, interpersonal, institutional and society-wide levels"* (Connell, 2012). Change at one level, or in one direction therefore is not necessarily replicated across levels. This stance is particularly important in framing my study as CHWs operate at a unique interface between community and the health system and gender roles and relations play out differently across them. Relationships are in flux and crucially, relational theory notes that gender structures do change.

3.3.3 A reflexive approach; the influence of intersectionality

Intersectionality also influenced the design of my study. Intersectionality was popularised by Crenshaw (Crenshaw, 1991) though it is worth noting the intersections that arise through power asymmetries were spoken about by African American, feminist writers such as Audre Lorde and bell hooks long before (Lorde, 2017, hooks, 1984). Including intersectional

perspectives into gender research takes into account the interaction between gender and different power asymmetries such as ethnicity, religion, socio economic status and age. Importantly, intersectionality analysis does not seek to simply add categories to one another but strives to understand what is experienced at the intersection of axes of oppression (Hankivsky and Cormier, 2009). As Lorde famously put it 'there is no hierarchy of oppression'. Similar to relational theory, intersectionality recognises the multi-dimensional and relational nature of lived experiences.

Hankivsky (2012) puts forth a series of questions for researchers to help engage in a reflexive feminist inquiry, which were helpful in selecting the appropriate methods for the study (Hankivsky, 2012) – see box 3.1. The answers to some of these questions touch on the practice of reflexivity and will be further discussed within the quality assurance section of the methods (see 3.5).

Box 3.1. Select questions from Hankivsky (2012) and the responses that helped me engage in a reflexive feminist inquiry

- ***Who is the research for and does it advance the needs of those under study****? (Hankivsky et al., 2010)*
  The research aims to explore the gendered experiences of CHWs and relay the findings into concrete suggestions for policy making for the cadre. In this way the study aims to advance the needs of those under study.
- ***Is the research framed within the current cultural, political, economic, societal, and/or situational context, and where possible, does it reflect self-identified needs of affected communities?*** *(Hankivsky and Cormier, 2009)*
  Research is framed both within the country specific contexts – which are set out in chapter one and also discussed within the results chapters for each context. For example, the political climate in Ethiopia at the time of research is reflected upon in results chapter six. In the discussion, broader discourses on the status of women in the health workforce and CHWs are also brought in to frame the findings.
- ***Is the sample representative of the experiences of diverse groups of people for whom the issue under study is relevant?*** *(Hankivsky and Cormier, 2009)*
  Each study aimed to explore the experiences of CHWs – participants were purposively selected to include variation of participants in age, location, gender, mobile phone ownership in the case of HEWs, etc. In this way a range of experiences were captured.
- ***How will interactions between salient categories be captured by the proposed coding strategy?***
  Coding was not specifically targeted towards interactions as this was primarily a gender analysis. However, rich description allowed for these intersects to be explored in the analysis stage. For example, in Ethiopia HEWs experiences were framed by their unique position as women in a patriarchal society but with elevated status as government health workers and in Mozambique APEs who were younger, unmarried and located close to South Africa experienced different livelihood opportunities from older, married, female APEs.
- ***What issues of domination/exploitation and resistance/agency are addressed by the research?*** *(Hankivsky and Cormier, 2009)*
  The research explores the exploitation of CHWs by the health system with regards to their mounting workloads, under- or un-remuneration and limited career progression opportunities. Their agency as change makers within communities is also explored as well as opportunities to further this via gender-responsive policy making – this is discussed further in the discussion - chapter seven.
- ***How will human commonalities and differences be recognized without resorting to essentialism, false universalism, or be obliviousness to historical and contemporary patterns of inequality?*** *(Cole, 2008)*
  Throughout the analysis process CHWs were not treated as a homogenous group – recognising their individual circumstances and needs. Quotes are included throughout the results to amplify voices of CHWs in expressing their unique desires and circumstances and so the reader can interpret their meaning.

3.4 Methods selected

Recent international guidelines on CHWs have been published by the WHO and UNICEF (WHO, 2018d, UNICEF, 2018). These guidelines can be used to share experiences and lessons across contexts and inform best practice at a national level – policy makers at this level may look to what has worked or hasn't in similar contexts and adapt policies as necessary. In order to guide robust CHW policy-making at an international level, it is therefore important to look across multiple contexts and present a global overview of evidence that reflects multiple cultural and contextual norms. Conducting a multi-country study allowed for similarities to be drawn out, as well as a reflection on the underlying importance that national socio-political and cultural differences play in policy making. Therefore, my study began with an international overview exploring the policy that guides CHW programmes from a gender perspective, before drilling down to two country specific studies.

The international policy overview utilised key informant interviews with global policy actors in the field to analyse the status of current CHW policies pertaining to gender norms (see chapter four). I then used two empirical studies to explore and contrast issues in two purposively sampled, low-income countries with national level CHW programmes within the REACHOUT consortium network. These countries were purposively selected due to their similarities and differences (see 1.7). People in Ethiopia and Mozambique have faced political and economic challenges in the last few decades, involving war, structural adjustment, and food price inflation and both have salaried, national scale CHW programmes (Maes and Kalofonos, 2013). The countries also have similar epidemiological profiles however, they have widely contrasting gender make up of CHW cadres; where Ethiopia, has an all-female cadre of HEW by policy (Wang et al., 2016), Mozambique has a predominantly male cadre of APEs in spite of national targets to have more females in the APE role than males (MISAU, 2010). These differences allow me to explore gender and CHWs from two contrasting viewpoints.

In order to represent the differing realities that exist between respondents from the international to national and community level, a range of methods were adopted (key-informant interviews, in-depth interviews, focus group discussions). These interviews were guided by predetermined topics of exploration relevant to each group being interviewed. The

diversity of qualitative techniques was supplemented by observations and informal discussions that took place in the field. These helped to consolidate understanding of the context and triangulate my conceptualisation of the topics explored but are not explicitly included in the results.

The following methods were selected in order to meet each research question, see table 3.1, which also provides an overview of the participants for each country study.

Table 3.1 Methods and participants selected to meet each research question

Country context	Research question	Methods	Participants
International	What is the current status of, and discourse on, gender responsive community health worker policy?	- Key Informant Interviews	- National policy makers - Researchers in the field - NGO workers
Mozambique	How can the health system enhance gender responsive strategies to support recruitment and retention of both male and female Agentes Polivalentes Elementares in Maputo province?	- IDIs and FGDs with APEs - IDIs with supervisors and district supervisors - IDIs with community leaders - IDI with MoH staff	- APEs - APE Supervisors - District supervisors - Community leaders - MoH staff
Ethiopia	What are the gendered experiences, and unintended consequences of mobile technology for Health Extension Workers in Sidama Zone?	- IDIs and FGDs with HEWs - IDIs and FGDs with supervisors - IDIs with district supervisors - FGDs with community leaders	- HEWs - HEW Supervisors - District supervisor - Community leaders

3.4.1 International key informant interviews

Following on from the REACHOUT country policy document review outlined in chapter one (see 1.4) which gave insight into the limited content pertaining to CHWs and gender within national policies. The 'why' and 'how' of CHW policy making, namely, '*why is gender not explicitly included?*' and '*how is CHW policy developed?*', was explored via key informant interviews. The aim was to explore the status of, and current discourse on, gender responsive community health worker policy.

Several tools exist to help address gender analysis in health policies (WHO, 2011a, PAHO, 2009, Morgan et al., 2016, Moser, 1993). The Pan American Health Organisation's (PAHO) *'Guide for analysis and monitoring of gender equity in health policies'* was specifically selected to help shape the topic guides and analysis (PAHO, 2009). It was chosen due to its focus on human resource policies, as opposed to addressing gender in health policies for the general population. It provides a conceptual framework for the evaluation of gender equity in health policies and some key questions that should be raised regarding gender equity in existing and proposed policies and practices in light of the issues indicated.

A qualitative approach was adopted to gain an understanding of institutional perspectives (e.g. within NGOs; Ministries of Health and research institutions) as well as the experiences and processes of CHW policy development (Hammarberg et al., 2016a). Individual key informant interviews were used to explore current discourse around gender and CHWs and gender and CHW policy and policy development from the perspective of international and national level policy actors, makers and implementers. Key informants were an appropriate choice as these interviews formed part of a scoping exercise. Key informants are people with specialist insights that can be particularly useful at the early stages of research (Payne and Payne, 2004). They can help guide the direction of the research moving forward and generate further lines of inquiry for the in-country fieldwork. They can also reveal organisational insights that would not be otherwise obtained(Kumar, 1989). The additional benefit of conducting key informant interviews was that I was able to conduct these myself in a relatively short time scale. Key informant interviews also present unique challenges. Given the small sample size and deeply localised insights there is limited validity (Kumar, 1989). They also tend to be conducted with 'elite' who may be more removed from the realities on the

ground, though I was able to balance this with interviews with CHWs in country. Further, as someone with a keen interest in the topic there is room for interviewer bias (see limitations in 3.6) (Kumar, 1989).

The key informant interviews were not restricted to people working within REACHOUT settings (see 1.1), allowing for a broader geographical scope. Semi-structured topic guides were developed that were based around the PAHO framework and findings from the REACHOUT policy document review (see 1.4). Topic guides covered how gender norms and relations might impact CHW service delivery; the process of CHW policy development and the actors and information available; current status of discourse with regard to gender and CHW policies within a country or organisation (see appendix 2).

Recruitment: A mixture of convenience and purposive sampling was used in order to reach key informants with relevant expertise in CHW programmes and community health programme policy making available at the time of the study. The Community Health Worker Thematic Working Group[6] was leveraged to aid recruitment in addition to networks made via strategic meetings such as Health Systems Research conference (Vancouver, November 2016) and the International Symposium on Community Health workers (Kampala, February 2017). This approach was deemed appropriate given the high level of expertise and interest members of the thematic working group and delegates of the conferences held. In order to mitigate the risk of bias due to the mainly convenience sampling approach - participants were selected to ensure representation based on geographical location, sex, and job experience (table 3.2) (Mackey and Gass, 2005). Participants identified via the convenience sampling approach also led me to further participants of interest via snowball sampling. Further, policy makers working directly in community health programmes from each African REACHOUT context country setting were identified and approached directly to be interviewed. Only one policy maker from the four country settings was successfully recruited due to the high-level

6 The Community Health Worker Thematic Working Group is one thematic working group of Health Systems Global. It supports the generation, synthesis and communication of evidence on the roll out and functioning of community health worker programmes and to enable learning across geographical and political contexts. See: https://www.healthsystemsglobal.org/twg-group/5/Supporting-and-Strengthening-the-Role-of-Community-Health-Workers-in-Health-System-Development/

of the respondents approached who already had busy and demanding schedules. Hence, scheduling a convenient time for an interview proved difficult. Likewise, the demanding role of policy makers approached working in community health from other contexts meant they were also hard to recruit, thus there are only two respondents with the 'insider' government level insight, which is a limitation. Respondents approached were generally working at a higher organisational level than those approached for the context analysis. Though some national level policy makers from Kenya were interviewed as part of the context analysis, those interviews were not focussed on gender. Inclusion criteria included – knowledge and experience of CHW programmes and health policy making processes. Health policies were seen to include human resource policies, community health strategy documents, operational guidelines and standard operating procedures. Exclusion criteria included knowledge of specific disease policies that may utilise, but don't focus on, CHWs e.g. HIV policies on defaulter tracing that 'use' CHWs.

Table 3.2 Key informant respondent demographics

Country of Origin of Key Informants	***International or National focus (current position)***	***Employment***	***Sex***	***Method***
USA	*International*	*Senior NGO worker with experience working in global health and community health programmes.*	*Female*	*Skype*
UK	*International*	*Senior NGO worker and policy actor experience working in community health programmes.*	*Female*	*Skype*
Afghanistan	*National*	*NGO worker / policy maker at MoH working in*	*Male*	*Skype*

		community health programmes.		
Bangladesh	*National*	*Researcher/NGO worker developing new CHW policies.*	*Male*	*Skype*
India	*National*	*Senior researcher/ consultant/ CHW advocate.*	*Female*	*Skype*
Mozambique	*National*	*Policy maker with experience of community health programme (MoH).*	*Male*	*Face-to-face*
Brazil	*National*	*Senior researcher and CHW advocate with experience working in local community health approaches.*	*Female*	*Skype*

Data collection: I conducted interviews via Skype, with the exception of one that was conducted face-to-face. Utilising Skype had the distinct advantage of allowing a wider range of participants by allowing us to transcend geographic boundaries (Lo Iacono et al., 2016). It has been critiqued as a tool for qualitative research as rapport building is more limited (Cater, 2011). I employed several tools to overcome this such as establishing an email conversation before, which helped to build rapport (Seitz, 2015) and in some instances meeting participants face-to-face at conferences, before following up for interview via skype. A further critique is that there may be a loss of visual cues (Bayles, 2012), however I used video calling which enabled facial expressions and cues to be read and interpreted. The quality of the connection was also good in all instances which meant conversations were uninterrupted.

I conducted interviews between November 2016 – June 2017 in English, with the exception of the Mozambican interview - this interview was conducted in Portuguese with the assistance of a translator. I was present in order to get a sense of the interview and clarify any concerns or questions. I recorded interviews with a digital Dictaphone and transcribed them as verbatim. For the interview conducted in Portuguese the recording was transcribed into Portuguese then translated into English. I employed participant checking to ensure participants true meanings were appropriately extracted.

Analysis: I analysed the interviews inductively via thematic framework analysis using qualitative analysis software, NVivo version 11 (Ritchie and Spencer, 1994a). I read and reread transcripts, and compared them, to identify emergent themes and developed a coding framework both deductively and inductively, using *a priori* themes from topic guides and the PAHO framework, as well as themes that emerged inductively from the data (see appendix 5) (Ritchie and Spencer, 1994a, Nowell et al., 2017). I paid attention to present both majority and minority views in line with a reflexive feminist inquiry. Due to the wide-ranging contexts covered in the interviews, I took saturation of data to be achieved when no new broad themes emerged – there were however, new context specific ideas that may not have reached saturation – for example the idea of CHW trade unions came up in Brazil only (see 3.6 for further information on limitations).

3.4.2 Mozambique country study

The aim of the study was to understand how the health system can enhance gender responsive strategies to support recruitment and retention of both male and female Agentes Polivalentes Elementares.

3.4.2.1 Study setting

The study was conducted in two purposively selected REACHOUT study districts in Maputo Province: Moamba and Manhiça.

The district of Manhiça is located approximately 80km from the northern part of Maputo Province and has a population of about 192,638 inhabitants. Manhiça currently has 40 APEs

serving: 30 female to 10 male. The epidemiological status of Manhiça district and community is dominated by malaria, diarrhoeal diseases, sexually transmitted infections and HIV/AIDS, which represent almost all notified cases every year. Manhiça has one health facility for every 8,730 inhabitants, one bed for every 665 people and one health care professional for every 1,600 people (Sidat et al., 2014)

The district of Moamba is located in the northern part of Maputo Province and has a population of about 43,396 inhabitants. The epidemiological status of the district is dominated by malaria, pneumonia, HIV and sexually transmitted infections (Sidat et al., 2014). Moamba currently has 25 APEs serving: 16 female to 9 male. Moamba has one health facility for every 7,800 inhabitants, one bed for every 419 people and one health care professional for every 1,390 people (Sidat et al., 2014).

The districts are mainly rural with established revitalised APE programmes and similar epidemiological profiles, however their health network remains insufficient to meet the needs of the population (Give et al., 2015a). Both districts experience difficult access to health services due to the poor coverage of the health network and deficient access to roads and transportation. Factors related to transportation, the poor coverage of the health service network, drought and illiteracy mean that these communities are vulnerable with regard to inequitable access to quality health services (Sidat et al., 2014). A key difference between the districts is that Moamba is inland bordering South Africa, whereas Manhiça, is a coastal town which brings differing livelihood opportunities for APEs and their communities. In Manhiça, residents are employed by the sugar and rice industry, as well as engaged in fishing and informal trade and migrant labour in South Africa (Munguambe et al., 2016). In Moamba, residents are engaged in agriculture and informal trade and migrant labour in South Africa.

Figure 3.3 Map showing the study districts of Moamba and Manhiça, north of Maputo.

Photos clockwise from top left: Joel, community leader with his community, Manhiça; Moamba train line; Rough terrain in fieldwork sites; Male APE, Moamba; Female APE, Moamba (all R. Steege)

3.4.2.2 Recruitment

I purposively selected participants to ensure representation based on geographical location, gender and job experience.

- District supervisors from the REACHOUT study were selected for inclusion via phoning ahead, they in turn identified further APE supervisors (Agentes Comunitários de Saúde)
- APEs were approached at the health posts and district hospitals and also via contact with the district supervisors. APEs were sampled based on sex, location and willingness to take part and availability for interview
- Community leaders, who play an active role in selection of APEs, were convenience sampled with the support from APEs, who were able to indicate whether they resided within a limited radius of the APE's workstation

Table 3.3 Qualitative interviews by participant type and district in Mozambique

Participants	**IDI**		**FGD**	
Ministry of Health Official	1x Male			
District level	**Moamba**	**Manhiça**	**Moamba**	**Manhiça**
APE	3x Male 4x Female	3x Male 4x Female	1 x mixed sex* (6 participants)	1x Male 1x Female
APE Supervisor	1x Male 2x Female	1x Male 2x Female		
District Supervisor**	1x Male	1 x Male		
Community leaders	3x Male 1x Female	3x Male 1x Female		
Total:	31		3	

*Male and Female APE FGD merged due to limited numbers

3.4.2.3 Data collection

Qualitative methods included face-to-face in-depth interviews (IDIs, n=31) and focus group discussions (FGDs, n=3) with a mix of APEs, APE supervisors, community leaders and MoH staff (table 3.3). I developed interview topic guides (appendix 3) to explore the gendered elements that surrounded the recruitment and retention of APEs. Questions explored the selection process, the distinct motives for joining and leaving the APE programme by sex and the support from the health system.

A female research assistant experienced in qualitative interviewing, Clara Ferrão, was recruited to ensure we had a gender balanced research team (two males and two females in the field at all times as fieldwork coincided with the REACHOUT Quality Improvement cycle two data collection period). She was trained in qualitative interviewing techniques (e.g. open-ended questions and probes), the research objectives and using the topic guides. Largely Clara conducted the interviews with male and female APEs and supervisors who were comfortable talking with us, and experienced REACHOUT team members Sozinho Ndima or Celso Give conducted the interviews with male community leaders (in part due to their Xi-Changana language skills). Sozinho and Celso were also trained on the research aim and on use of the open-ended topic guides. The IDI interview topic guides for the APEs, supervisors and community leaders were piloted in the field and refined with the help of Clara.

We conducted interviews at health posts and district health centres. These were scheduled in private spaces to avoid any distraction and to ensure confidentiality of respondents, at a time convenient to the respondents, and were recorded, with permission, using digital Dictaphone devices.

I was present during the interviews to clarify any concerns of the participants or research assistant and to understand the dynamics of the interview. Also, due to my intermediate Spanish language skills, I was able to follow the interviews in Portuguese and engage and gently suggest or steer the interview with any questions I wanted Clara to cover in more detail. I found this to be incredibly beneficial to my overall understanding and sense of what was being said (and contrasted to my experience in Ethiopia – see 3.4.3.4). I was able to take

notes on key themes or issues that arose during interviews. Clara also had flexibility to steer the conversation in ways she felt appropriate to the research aim. Discussions were held following each interview between myself and the research team to encourage reflexive practice and so that I could gain further understanding of what was discussed and refine lines of inquiry.

3.4.2.4 Analysis

Clara transcribed the recordings verbatim into Portuguese or the local language (Xi-Changana). Sozinho Ndima (a member of the REACHOUT team) then translated these into English. Back translation from English into Portuguese was conducted in a small sample of transcripts to assure accuracy of the translation.

I read and reread transcripts to identify emergent themes and developed a coding framework in accordance with thematic analysis (Ritchie and Spencer, 1994a, Nowell et al., 2017) (appendix 6). I used an inductive approach primarily but some *a priori* themes were informed by the Steege *et al.* conceptual framework (developed as part of the literature review in chapter two) and included domains around training, recruitment and selection processes (Steege et al., 2018b). I uploaded transcripts to the software NVivo 11, to code them. In order to improve trustworthiness and triangulate the findings, I compared data from individual interviews and focus group discussions (Patton, 1990). I paid attention to present both majority and minority views in line with a reflexive feminist inquiry outlined in box 3.1 (Cole, 2008, Hankivsky, 2012).

3.4.3 Ethiopia country study

This study aimed to explore the gendered experiences, and unintended consequences of a new mobile technology for HEWs. It is important to note here that I chose to interview HEWs in Ethiopia, rather than the unsalaried cadre of women who operate below them, known as the Health Development Army (HDA). This is because the HEW are the equivalent of CHWs within the country so most appropriate to compare and contrast with CHWs in other countries. They were the cadre that were studied within REACHOUT, so it also allows for continuity here. Finally, they are also the cadre of workers who took part in the SEARCH mobile

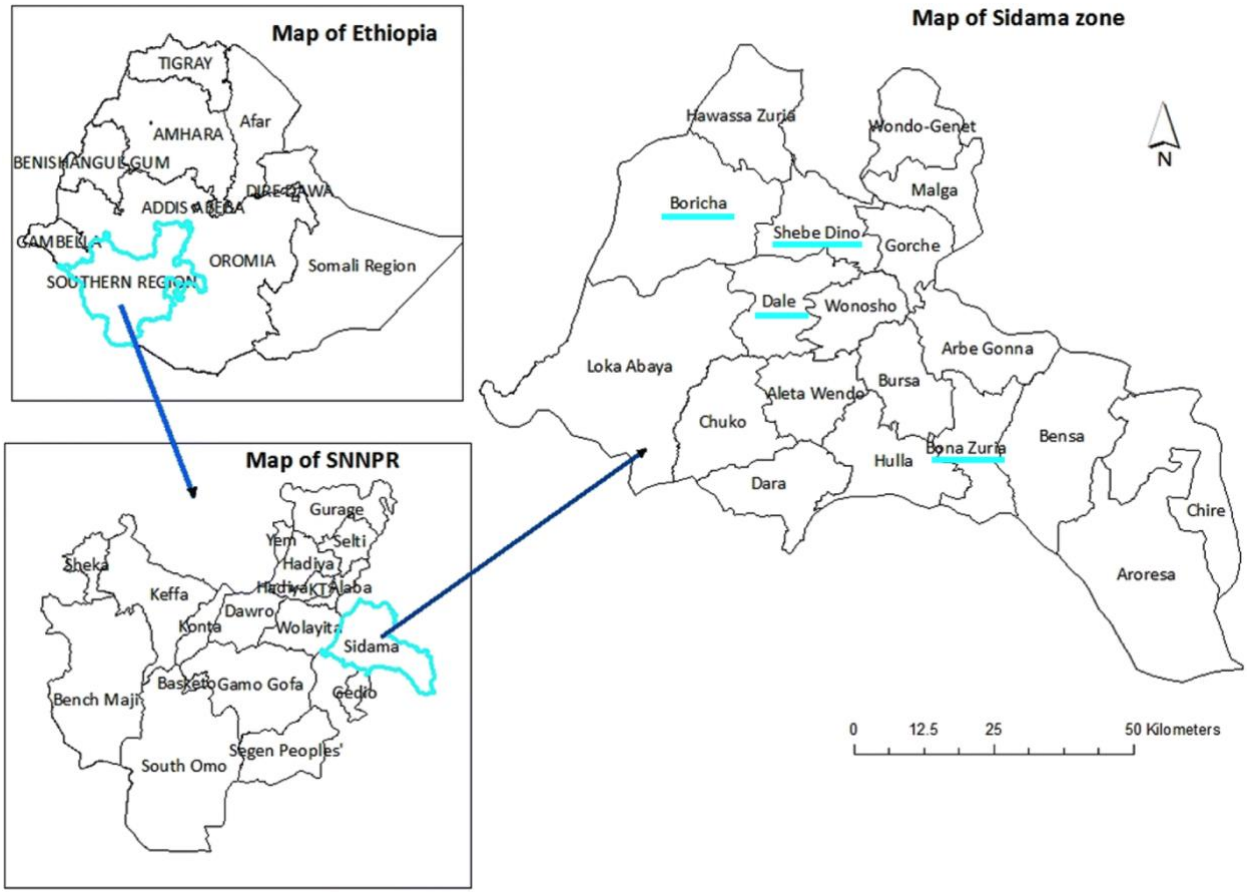
health (mHealth) project. Limitations of not speaking with the HDA are discussed under 'Limitations' (3.6).

3.4.3.1 Study setting

The research was linked with an existing mHealth project known as the SEARCH project (see 3.4.3.2). The study was conducted in Sidama zone, Southern Ethiopia, a densely populated area with a population of about 3.7 million. Hawassa is the capital of Sidama zone and was where I was based during the fieldwork working out of the REACH Ethiopia offices (a common partner across REACHOUT and SEARCH). The zone has 19 rural districts and four town administrations. There are currently 525 health posts, 127 health centres, three zonal and eight primary hospitals providing health services. My research was focused on four out of the six SEARCH intervention districts (Shebedino, Boricha, Dale, and Bona-Zuriya) within Sidama Zone where the female HEWs have access to mHealth technology. These districts were selected for both being geographically diverse – located close to and far from Hawassa. For example, Shebedino is the closest district to Hawassa (approximately 25km), the road to access it is fairly smooth as it is currently under development by Chinese workers, though stretches of new tarmac are interspersed with patches of rubble. It can be reached within an hour. For this reason, the district is often used for research and respondents are more used to seeing and cooperating with external researchers. By contrast, Bona-Zuriya is less well researched, it is situated approximately a four-hour drive from Hawassa and the terrain is very hilly and difficult to access. In this district they are less familiar with seeing external researchers, or indeed foreigners, other than the Chinese road workers. Boricha and Dale fall in between these two districts in terms of their remoteness from Hawassa and terrain. Boricha is more 'urban' like Shebedino and Dale more lush, green and hilly like Bona-Zuriya. The districts were also selected for differences in performance. Shebedino is a star performing district with high rates of institutional delivery and antenatal attendance, the Quality Improvement (QI) approach from REACHOUT has also been very well embedded here. By contrast other districts have a more varying performance and REACHOUT QI work is less well embedded.

Figure 3.4 Map showing Sidama zone in Southern Ethiopia, where the study took place

Figure 3.5 Map showing the four study districts (blue underline) within Sidama Zone, Southern Ethiopia.



Photos anticlockwise from top left: HEW with smartphone in her health post; health post; Fantu, HEW with her daughter at her health post; signpost at a health centre; maternal waiting room in traditional Sidama style hut (all R.Steege)

3.4.3.2 The SEARCH mHealth intervention

In 2014, the Ministry of Health of Ethiopia developed an electronic health strategy, in which it called for mHealth interventions that could improve the effectiveness of HEWs' primary health care service provision (FMoH, 2014). The current HMIS system relies on paper-based reporting, which is transported from health posts to health centres, districts, zones and finally to the region. This system leads to delays, incomplete data or inconsistent data. Thus, data are not collated and under-utilised with limited feedback (Dusabe-Richards et al., 2016). An

improvement in MCH and TB control requires early identification, linkage to facility-based services, follow-up and the need for improved reporting system whereby local data collection can be acted upon to support and improve equitable service delivery and quality improvement.

The SEARCH intervention focussed on the priority areas of TB and maternal health services and is linked to the Ethiopian Ministry of Health's mHealth strategic framework to improve the HMIS to provide better health services. Ninety-seven smartphones and eight computers were distributed to HEWs, their supervisors, health centre staff and focal persons from intervention districts and zonal levels with responsibilities over the HEP. Districts were purposively selected due to differences in terrain, performance and distance from Hawassa. Theoretical and practical training was conducted over a series of months. Airtime allowance of 100 birr (3.64 USD) was provided monthly by the project for the first five months. Subsequent top-ups were paid for by phone recipients. The intervention had a strong focus on ongoing supervision, communication and problem solving at different levels of the health system.

To avoid duplication of data, one smartphone was assigned per health post to be shared between the two HEWs that work there. HEWs were able to use the phone to input data on expectant mothers and TB case finding. The data was then uploaded to the HMIS (if online, if not data are stored until internet connection is reached) where it is instantly available to other levels of the health system. This was intended to improve data quality, timeliness, transparency and accountability. The programme also sends out alert messages to remind HEWs about due dates of delivery for expectant mothers and follow-up sputum examination for TB smear positive cases. This aims to improve the equity of service provision by reaching those that may not follow up due to access limitations.

3.4.3.3 Recruitment

On arrival to Ethiopia, I travelled to Shebedino in order to meet with the head of the Zonal health department, Burisso Shashamo, who I had previously met during the REACHOUT meeting in Indonesia and had already formed a relationship with. We secured a letter of support for my research to explain my presence to heads of health centres in the field.

- REACH project supervisors were purposively selected from the SEARCH districts for inclusion and they in turn, identified further HEW supervisors who supervised intervention health posts. I aimed to recruit a mixture of male and female supervisors however, there was only one female supervisor serving in the project districts.
- Health extension workers at intervention health posts were identified as well as those reporting to the selected supervisors and were sampled based on willingness to take part and availability for interview – HEWs with different experiences of using the mobile phone were sampled i.e. primary owner of phone vs. non-primary owner of phone.
- Community leaders in intervention districts were recruited with the help of the HEWs, project supervisors and heads of health departments who knew the community leaders in each context. These community leaders were then able to call a meeting with other community leaders at a convenient time and place where the focus group was held.

Table 3.4 Qualitative interviews by participant type and district in Ethiopia

District **Participant**	**District one**	**District two**	**District three**	**District four**
HEW	2 x IDIs (Female) 1 x FGD (Female)	3 x IDIs (Female) 1 x FGD (Female) *	4 x IDIs (Female)	5 x IDIs (Female) 1 x FGD (Female)
HEW Supervisor	1x IDI (Female) 1 x IDI (Male)	1 x IDI (Male) 1 x FGD (Male)**	1 x IDI (Male) 1 x FGD (Male)	1 x IDI (Male) 1 x FGD (Male)
Community leaders	1 x FGD (Male)	1 x FGD (Male)	1 x FGD (Male)	1 x FGD (Male)

*merged with participants from District three due to geographical proximity and convenience of participants

**merged with participants from District four due to geographical proximity and convenience of participants

3.4.3.4 Data collection

I used qualitative methods to generate rich insights into participants' experiences of the intervention (Hammarberg et al., 2016a). They included face-to-face semi-structured in-depth interviews (IDIs, n=19) and single sex focus group discussions (FGDs, n=8) with HEWs, supervisors and community leaders (table 3.4).[7] Interview topic guides explored the gendered elements of the intervention: ways in which the mobile phones helped or hindered HEWs' roles, how HEWs used the phones outside of work and the impact on their relationships at various levels (appendix four).

A female research assistant, Yamrot Haile, who was fluent in Sidamigna (the local dialect) and had an interest in gender was recruited to ensure HEWs felt comfortable to talk openly. Given the cultural norms it was important to have a female researcher so that the HEWs would feel free to speak more freely about things that concern their experiences as women, and health workers, in Ethiopia. I was also present during all the interviews to clarify concerns raised by the participants or research assistant and to understand the dynamics of the interview and take notes on these non-verbal cues.

The IDI interview topic guides for the HEWs and their supervisors were pre-tested and refined further (this was not done for community leaders – see 3.6 - limitations). Discussions were held following each interview between myself and Yamrot so that I could gain further understanding of what was discussed and ensure that we were probing correctly. However, Yamrot had flexibility to steer the conversation in ways she felt appropriate to the research aim. This also presented a particular challenge to me as I was unable to follow the interviews due to the language barrier and therefore unable to steer the conversation or ensure research aims were met at the time of interview.

We conducted interviews at health posts, health centres and *woreda* health offices. These were scheduled in private spaces to avoid any distraction and to ensure confidentiality of

[7] In the study districts, all HEWs are female and all community leaders male. Supervisors are predominantly male with one female in some districts. Naming each district would therefore breech confidentiality.

respondents, at a time convenient to the respondents, and were recorded, with permission, using digital Dictaphone devices. Interview recordings were transcribed verbatim by external transcribers and consequently translated to English. The quality of translation was checked by Aschenaki Kea, a member of REACH Ethiopia who worked across both the REACHOUT consortium and the SEARCH project so fully understood the aims of my thesis.

3.4.3.5 Analysis

I read and reread transcripts several times to identify iterative themes (Ritchie and Spencer, 1994a) and select appropriate quotes. I developed an inductive coding framework in accordance with thematic analysis (Ritchie and Spencer, 1994a, Nowell et al., 2017). I uploaded transcripts and synthesised them into the framework (appendix 7) using software NVivo version 11, which was also used to code and run queries on the data. I paid due attention to amplify the voices of the majority and minority views, in line with a reflexive feminist inquiry as outlined in box 3.1 (Cole, 2008, Hankivsky, 2012). In order to improve trustworthiness, I compared data from individual interviews and focus group discussions, to triangulate the findings (Patton, 1990).

The analysis was also informed by an adapted socio-ecological model (figure 3.6), which was designed to evaluate how the intervention impacted the interface position of the HEWs. This was relevant within the Ethiopian context where the introduction of new technology impacted HEWs' relationships in different ways across various levels and was focussed on a singular policy and how it plays out. In Mozambique I explored how multiple existing health system factors and policies interacted with gender norms and relations, so the conceptual framework developed in chapter two (figure 2.3) was deemed most appropriate. Analysis was also conducted in light of how the intervention fared along the WHO's gender transformative scale (figure 3.7).

Figure 3.6 Socio-ecological model showing Ethiopian HEWs' multiple roles and relationships. Adapted from (McLeroy et al., 1988)

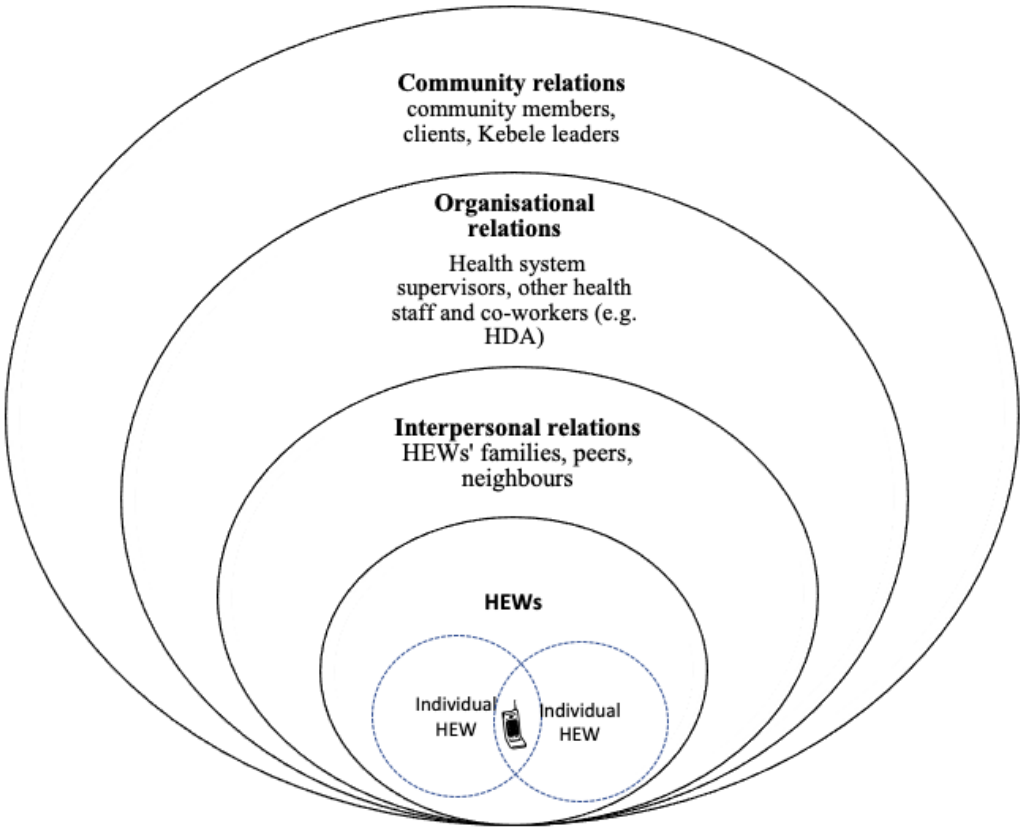
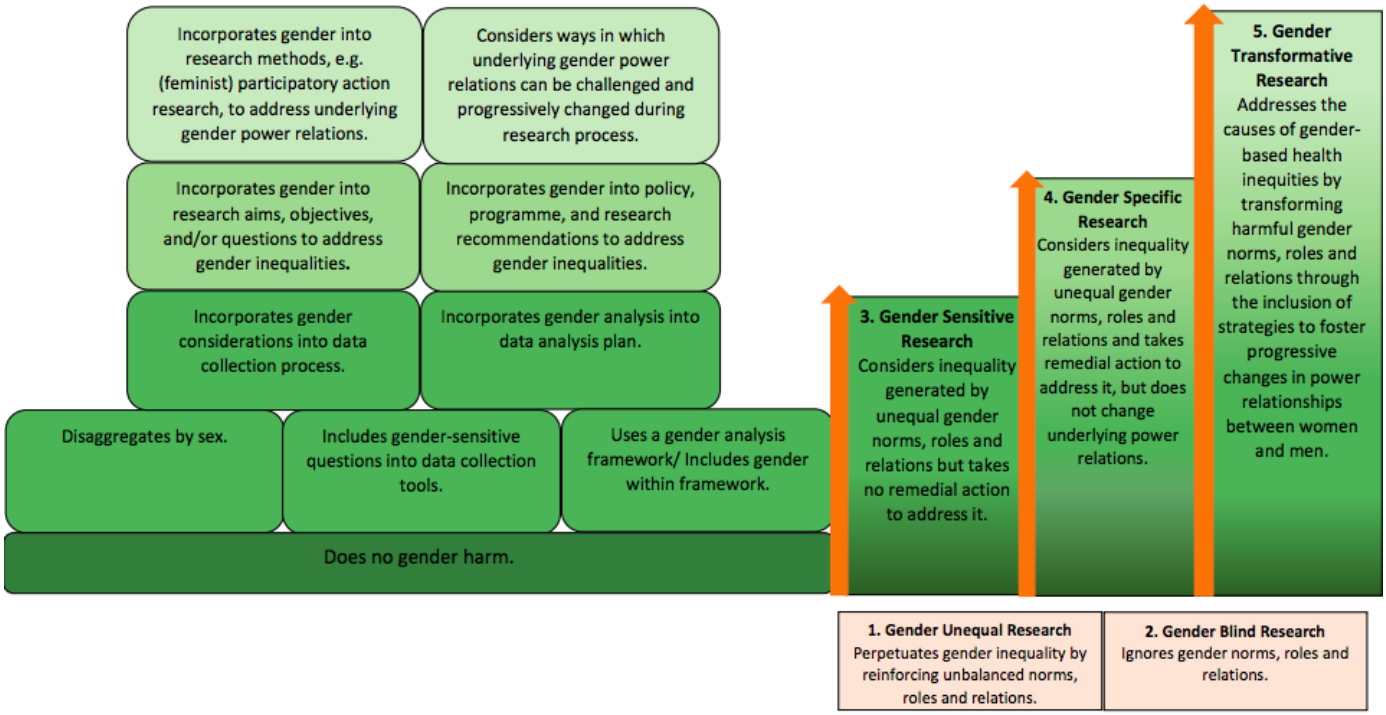


Figure 3.7 WHO Gender Responsive Assessment Scale. From (WHO, 2011a). Gender mainstreaming for health managers: A practical approach. Geneva.



3.5 Quality assurance across thesis

3.5.1 Trustworthiness

Unlike in quantitative research, trustworthiness in qualitative research cannot be measured by validity and reliability metrics. Trustworthiness instead relies upon how well the research is conducted and analysed. Guba (1981) proposed four elements that are critical to ensure trustworthiness in qualitative research: credibility, transferability, confirmability and dependability (Guba, 1981). Thus, it is important to be transparent about how these were addressed during data collection and analysis.

Credibility is concerned with how congruent the findings are with reality (Merriam, 1998). In order to ensure that the truth was being represented in my findings, I employed several approaches, including:

- Direct engagement – I ensured familiarity with the context and culture of my two country studies early on in my thesis journey via harnessing the REACHOUT consortium network. This allowed me an opportunity to work intensively with

colleagues from both Ethiopia and Mozambique from the very beginning of my thesis to understand the context through their experiences (as outlined earlier in section 3.2). I was also able to visit Ethiopia and familiarise myself with the context ahead of beginning my fieldwork which was also invaluable in shaping my study design. For example, it was during this initial trip that it was suggested to include community leaders within my respondents as they would also have insights into the HEWs work from a different perspective. The continued collaboration within the REACHOUT network also allowed for peer scrutiny, of my overall thesis plan, conceptual framework, methods and initial findings. Further, as the researchers and translators were also part of the REACHOUT team this helped as they understood the context and also the objectives of the research and the importance of accurate translation.

- Triangulation of data – Data was triangulated by using multiple respondents from international policy makers and NGO workers, national ministry of health staff, heads of health centres, supervisors, CHWs and finally representatives of the community themselves. This enabled me to build a picture of experiences throughout the various layers of the health system and also from the community perspective. I also triangulated these findings by using several different approaches including in-depth interviews, focus group discussions and key informant interviews.
- Conceptual saturation - Qualitative studies are not designed to be representative in terms of statistical generalisability (Pope et al., 2000), instead I sought to achieve conceptual saturation speaking to respondents and collecting new data until no new concepts or themes were identified.
- Rapport building – In order to ensure honest and frank discussions were had and to reduce social desirability bias it was important to build rapport with respondents. For the key informant interviews this came naturally, people I spoke with were working in the field and we therefore had a shared interest which I was able to leverage to build rapport quickly. For the country studies, the research assistants Yamrot and Clara that conducted the research for me in Ethiopia and Mozambique respectively, were trained qualitative researchers and were able to establish a rapport as well as encouraging participants to speak openly (more on the use of translators is discussed in 3.6 limitations). They explained the purpose of the research and stressed confidentiality at the beginning of each interview. From my perspective, as an

'outsider' with a less active role during the interviews, I felt it important to build rapport too. I found my efforts in learning basic conversational Amharic and Sidaminga (Ethiopia) and Portuguese (Mozambique) to introduce myself and exchange pleasantries to be an effective way to break down barriers. More on my position as an outsider is discussed under section 3.5.2 - reflexivity.

- Iterative questioning – I adopted this approach to key informant interviews, where the topic guide existed as a guide, but questioning was largely iterative, for example if a respondent brought up something that was not included within the discussion guide but was of interest, I was free to follow up on this line of questioning. Similarly, having trained qualitative researchers who were fully briefed on the objectives of the research allowed for iterative questioning in each country study.
- Regular debriefing with research teams – Another way in which iterative questioning was enhanced was by having regular debriefing with research teams, this meant topic guides were adapted and enhanced during fieldwork to ensure aims were being met, as well as appropriately exploring CHWs experiences.
- Member checking – This was a strategy I employed in the KIIs to ensure I had effectively understood the meaning of respondents and could express their experiences or opinions correctly. This took place to some degree in the country studies, although less rigorously. I returned to Ethiopia a year after my fieldwork to attend the final dissemination meeting of the REACHOUT project (Steege, 2018). This provided an opportunity to informally check the themes that were identified with some participants in the context.
- Inclusive coding approach - All themes are coded iteratively rather than reduced to fit predetermined criteria (Pope et al., 2000). As all coding was done myself, the coding framework was flexible and evolved with time (appendices 5-7). Consistency and cohesion of the coding was also emphasised by having an explicit epistemological position that underpinned my study (Holloway and Todres, 2003)
- Reflexivity – In keeping with a reflexive approach to research I kept a research diary whilst in the field, and during the analysis to reflect on and ensure I included the voices of minority views in the analysis stages. More on reflexivity is discussed in 3.5.2 and box 3.1.

Transferability is concerned with the extent to which the findings of one study can be applied to other situations. This is somewhat contentious in qualitative research as it has been argued this may belittle the importance of context (Shenton, 2004). I have aimed to address this in the design of my thesis by providing a global perspective before delving into two country specific studies. The literature review and conceptual framework developed from the data also serves to draw out the themes from a global perspective. The empirical country specific studies feature thick descriptions that contextualise the research; having two country specific studies also enables me to provide similarities and contrasts between contexts. Further, REACHOUT consortium meetings had a focus on inter-country analysis. This allowed me to see my data, not only across two countries, but how it resonated across all six countries. It is also important to recognise the limitations of the research in terms of respondents, time period and data collection methods used – more detail on this is given in limitations (see 3.6).

Dependability pertains to the repeatability of the findings; I have aimed to address this by writing a clear and detailed account of my data collection methods. ***Confirmability,*** meaning the findings are free from bias (including social-desirability bias) can be difficult to assure in qualitative research. As researchers we design and execute the tools meaning that some bias is inherent. Maintaining reflexivity is a key way in which we as researchers can seek to mitigate, or at least acknowledge this bias, and how it may influence our findings, as discussed further in the next section.

3.5.2 Reflexivity

> *We all speak from a particular place, out of a particular history, a particular experience, a particular culture, without being contained by that position*
> (Hall, 1992)

In social-science research, and aligned with naturalistic inquiry, the researcher is the instrument (Lincoln and Guba, 1985): they design the tools, collect the data, analyse the data and present the findings as they understand them. The quality of the data largely relies on the researcher's skills (Pope et al., 2000) and the positionality of the researcher is crucial to the knowledge production (Moser, 2008). It is therefore critical to to consider my positionality as a feminist researcher and my legitimacy to speak for the people I interacted with as part of

this study. In the context of the global South, both male and female academics confront issues of power, domination or exploitation (England, 1994). A researcher's positionality, be it race, age, gender or sexuality, can create an imbalance of power which may influence the knowledge attained in an interview (Hammersley and Aktinson, 1993). In this way, some bias is inherent in social-science research and maintaining neutrality can be difficult.

During my research I experienced my position as both an insider and an outsider. For the key informants, many I spoke with were researchers themselves, working at an international level, used to collaborating with colleagues internationally. In this way, they felt very comfortable with my role as a researcher and the confidentiality around what was discussed during interviews. Largely I got the sense that people I spoke with were open and willing to share their true experiences, even if they expressed opinions that were less diplomatic. Nevertheless, it is possible that as a young, British, unmarried, female PhD student some may have felt I was 'unqualified' to talk about some matters and they may have withheld true opinions, especially critiques of how things happen currently within the global health space. I did feel however, that my strong interest in gender and CHWs opened opportunities to discuss gender issues. Some respondents expressed that they wanted to learn from me how to be more gender-responsive and it felt as though they were receptive to these discussions – though this may have also introduced bias in the respondents I was able to recruit (discussed further in limitations - 3.6). My position as a feminist however was one of many facets that came together to shape my position, and in line with an intersectional approach – it was not the defining characteristic for my position.

To some extent I was able to fall into a hybrid position, an insider with regards to research, but an outsider to the policy making procedures and happenings. I felt this position allowed for an honest account of frustrations for how things work at this level, though perhaps did not allow for the depth of the processes to be accounted for. As Walt *et al.* (2008) note, policy teams that comprise insiders and outsiders yield the richest understanding of the policy processes as the depth and understanding is present without the inherent bias that comes with insider status (Walt et al., 2008).

During the two country studies I held the position of an outsider. This position was reinforced almost daily in Ethiopia where I would get called 'Forenge' (foreigner) and occasionally in Mozambique, when I was referred to as 'Branca' (white). In some ways my position as an outsider was beneficial: it allowed me to ask blunt, or obvious questions in order to gain deeper understanding. I was also acutely aware of the importance of having local researchers with me, able to speak, not just national languages but the local languages. I also felt that within these contexts being an outsider came more to the forefront, and less emphasis was placed on my being female, or a feminist. I noted one particular example in Ethiopia where one respondent was initially shy and Yamrot said "why are you quiet like a newly married bride?"[8] and they both fell about laughing. In lieu of the language barrier, this cultural reference was important to build rapport and a gentle way of getting someone to open up via leveraging a local custom to make someone feel at ease.

Holding the position of outsider, also brings with it a certain imbalance of power as Adams and Megaw note:

> *We come from outside the village. We speak other languages and follow arcane practices (socio-economic research), and we seem to have powerful friends because we bring letters of introduction…. Above all, we can come and go: we are not committed.*
> (Adams and Megaw, 1997)

My position as an outsider meant that I was viewed as someone coming in to help. Health staff would seek my opinion on the state of the health centres and at the end of interviews participants would ask me to improve the network coverage or report back to supervisors or the government, as this example from a focus group Mozambique shows:

> *Q: And there's something else you'd like to add that I did not ask? We talk about the difficulties, how you would like support, do you have anything else?*
> *A: We would like this interview not to end here, to go to the ministry; I would like this interview to bring some difference, we talk about our difficulties, as soon as we give the interview we expect some results.*
> APE, FGD Female, Manhiça, Mozambique

[8] This is in reference to a tradition of newly married brides that visit the groom's family home after the wedding and rarely speak

Another example was offered in Ethiopia, where although interviews were conducted on a voluntary basis, in order to avoid undue influence, reimbursement funding was allocated to those who incurred transport costs in travelling to the interviews. There was one occasion where HEWs had travelled for an FGD and on arrival asked for additional money. Yamrot had explained prior to scheduling the interview the voluntary nature of the interview but something must have been misunderstood. She was able to explain again the voluntary nature and purpose of the interview and that travel costs were paid for rather than an honorarium payment for their time and they all agreed to the interview. However, the situation spoke to my position – viewed as a wealthy outsider with funds to give and I questioned whether I was exploiting their time.

Initially I felt uncomfortable with these requests as it clearly spoke to how my position was associated with power and it was hard to disentangle this power imbalance from my race and educational status. Conscious of the 'white saviour complex' I questioned my own legitimacy in undertaking this research; there was a pressure to make a change to improve the lives of the CHWs and I internalised that pressure. Ultimately, this allowed me to reflect on my position and remind myself that the goal of my research was much bigger than me. I thought about how I could play a role as an 'active researcher' and a chance meeting with someone in the telecommunications industry in Ethiopia allowed me a forum to discuss the issues of network connectivity that was a stalling block for the HEWs there, however I was not in a position of power to be able to make real change. Further, in Mozambique the APEs articulated how my position as a white outsider motivated them as it clarified their position as part of the health system to their community members.

> *…we really like those visits that you do, for example, when a group from Maputo arrives there, when they see white people there (laughs). Because when you come to a family to [do a home] visit, with a white one…[others] start to ask 'why did they not arrive at my house, for white people to walk in my house' (laughs) because that there already makes the community see that this person is health staff, this also motivates us, gives us strength.*
>
> APE, FGD Moamba, Mozambique

Moser (2008) also writes about personality, which she argues is conceptually linked to positionality (Moser, 2008). She describes how when conducting fieldwork in Indonesia, villagers responded to her personality over her positionality. One superseded the other. To this end I did feel personality was important in building rapport and setting a level playing field with respondents which may have helped to redress some of the power imbalance. For interviews both conducted by me, and with me as an observer, being interested, friendly and observing cultural practices meant I was viewed as open and participants were given the space to open up. Likewise, Yamrot's gregarious and friendly nature meant she was able to elicit lively responses from some participants but perhaps came across as too dominating for other respondents. Particularly given that how personality traits are perceived can also be gendered, an extraverted woman in Ethiopia may be less well received in some rural areas than an extraverted male due to male dominance norms. These personality traits may have impacted respondents more than her position as a local researcher, though it is hard to know. This is where I found observing interviews for body language clues can be incredibly valuable. In Mozambique, Clara had a graciousness and earnestness about her that I think respondents valued ahead of her position as a relatively young, Mozambican woman.

England (1994) questioned how the voices of others can be incorporated into writing without reinforcing patterns of domination (England, 1994). Whilst there is no collective agreement on the right approach to doing this (Smith, 2014), maintaining this reflexivity throughout is important. Keeping a fieldwork and analysis diary is a useful tool to help ensure this throughout the writing process. My responsibility now is to demonstrate my commitment and relay the wishes and concerns of the participants I spoke with back to stakeholders within the research countries, to help inform policy and honour the requests of my participants, in line with reflexive feminist principles outlined in box 3.1.

3.5.3 Ethical considerations

Ethical approval was granted by the Liverpool School of Tropical Medicine (16-022) and by the Ethiopian Ministry for Science and Technology in June 2016 and the Mozambique in April 2017. On arrival in Ethiopia a support letter was obtained from Regional Health Bureau to

conduct the interviews and in Mozambique a support letter from the University of Eduardo Mondlane was obtained.

Research assistants (Yamrot Haile and Clara Ferrão) were trained by me in how to conduct informed consent prior to carrying out the interviews. Written informed consent was obtained from all participants for in-depth interviews, focus group discussions and key informant interviews. In cases of illiteracy (occurring twice with community leaders in Mozambique) a thumbprint was obtained from participants. Consent was also sought to record and transcribe the interview. Issues of confidentiality and anonymity were discussed with respondents at the start of each interview. Participants were informed they had the right to answer only what they wanted and to leave the interview at any time. Written consent forms were stored separately from the data collected and there were no codes that could link individual's transcripts to the consent forms. Further, when photographs were obtained verbal consent was sought.

During fieldwork in Bona Zuriya, Ethiopia, we came across the scene of a serious bus crash. The local health centre was over-run and ambulances were called from Hawassa for the seriously injured but it was a three-and-a-half-hour journey between the two sites with limited numbers of ambulance vehicles. Yamrot and I abandoned the interviews scheduled for that day and with the approval of the local authorities, used our vehicle to transport an injured family to the general hospital in Hawassa to be attended to. We stayed at the hospital so that Yamrot could help to co-ordinate the health centre emergency response.

3.6 Limitations

Here I introduce some of the methodological limitations relevant to each of the three sub-studies. Further limitations across all three sub-studies are explored within the discussion chapter (see 7.5).

3.6.1 Key informant interviews

I intended to conduct the key informant interviews with national level policy makers in order to gain insight into the discourse on gender behind the scenes or in upcoming and

unpublished policy documents however, they proved difficult to recruit. The convenience sampling approach taken to the recruitment process (see 3.4.1) used strategic conferences such as the Fourth Global Symposium on Health Systems Research in Vancouver and 1st International Symposium on Community Health Workers in Kampala. Whilst this provided an opportunity to reach participants and meet face-to-face that would otherwise not be available to me, there are a limited pool of people I was able to reach. To further my reach, I also used forums such as 'Health Systems Global' and 'Health Information For All'[9] and leveraged networks via these platforms. Snowball-sampling helped to broaden this as connections from these networks often introduced me to other interest participants. It also became apparent that the people who were willing to take part in the research, were those who had a prior interest in gender, wanted to learn more, or who had a story or experience to tell about this. Naturally, this may have skewed the responses and viewpoints to those interested in the topic, although it did show to me that people are willing to learn and discuss the issues that exist. It has also been suggested when researching health policy that a study team of an insider and outsider will yield the richest data (Walt et al., 2008). Although I feel I was able to take on a more hybrid role in some instances, as a researcher interviewing other researchers in some cases, I largely held the role of outsider, so may have missed some of the depth and nuance required to fully comprehend the complexity of the policy making processes and landscape. Another limitation is that although I was able to recruit a policy maker from Mozambique, I was unable to recruit one from Ethiopia, thus the same level of insight from both countries is absent.

With the exception of one, the key informant interviews were also conducted via Skype, which had the advantage of allowing a range of participants from different contexts to take part. The main critiques of this method is that rapport building is more limited and there is a loss of visual cues (Bayles, 2012) . However, the respondents I spoke with were all very familiar and comfortable using the technology and I had the opportunity to meet most respondents in person ahead of our interview, or if not conducted a skype call ahead of the

[9] HIFA (Healthcare Information For All) is a global social movement to improve the availability and use of healthcare information in low- and middle-income countries. It has more than 15,000 members (health workers, librarians, publishers, researchers, policymakers etc.). See: http://www.hifa.org/

formal interview to aid in rapport building. Video calling was used which enabled facial expressions and cues to be read and interpreted.

3.6.2 Ethiopia

In Ethiopia, I had a relatively short fieldwork period of six weeks. One of the main limitations of this, was that my research assistant did not have the time to transcribe and translate as we did the research. I did not push this enough in hindsight for fear of ruining our relationship and because Yamrot herself was struggling with competing demands of childcare and work while her husband was away to study, reflecting a wider gender dynamic in Ethiopia - something that we discussed informally with some HEWs over lunch reflecting her insider status. Instead I accepted that most of the transcription and translation would be done following the research and opted to have in-depth de-briefs following each interview. Despite these discussions, on seeing the transcripts it is apparent there were areas which were not probed or explored that perhaps should have been and could have elicited a richer response. The limited time also meant that although topic guides with HEWs and supervisors were piloted in the field, the focus group discussion guides to be used with community leaders were not piloted first. Despite this, the interviews were conducted towards the end of the fieldwork so Yamrot had a good understanding of the research aims and objectives by this point and was able to use iterative questioning to ensure the appropriate questions were put forward. Further, in line with a constructivist approach to data collection, as an Ethiopian woman working in the health sector and who identified as a feminist, she was able to bring her own cultural understanding and insights to the research.

A further limitation was not having the appropriate language skills which required me to work through the research assistant, Yamrot. While I was present in interviews and able to observe them for visual cues and body language I was unable to steer conversations or interject – I had to trust Yamrot understood my research aims and would cover the appropriate line of questioning. As discussed above, while on the whole the data was good, there were areas which were not probed or explored that could have elicited a richer response. It has been noted in the literature that translators may produce knowledge that is not in-keeping with the goals of the researcher (Berman and Tyyskä, 2011) and that the meaning of participants

may be reduced, or lost in the interpretive translation process as there is not always the appropriate term in each language (van Nes et al., 2010). Thus, under a positivist paradigm the use of a translator may be viewed as a threat to validity and should be 'controlled for' via validity measures such as back translations and triangulation (Berman and Tyyskä, 2011). A feminist, constructivist approach to research, sees the translator as an active producer of knowledge – Yamrot's position as an Ethiopian feminist woman therefore also acted as a benefit to the research process (Edwards, 1998, Temple and Edwards, 2002). Edwards (1998) argues that translators' independent action can strengthen research, especially when sensitive subjects are discussed (Edwards, 1998), as in this case. Indeed, Yamrot was able to engage and connect with the respondents in a way I would have not been able to. Further, in the translation process, this level of engagement may have encouraged participants meaning to be translated as opposed to a more literal translation. I also benefitted from understanding more about her position in society as a female worker, wife and mother via informal discussions giving me deeper insight into the culture. In line with this constructivist approach, Temple 1997, states that any differences in perception of translation should be debated between researcher and translator (Temple, 1997), however this step was only done for the few translations received in the field during the time of fieldwork presenting a further limitation.

Out of the scope and time allowed for this thesis, we did not have the opportunity to speak with the health development army – a cadre of female volunteers working below the HEWs (see figure 1.5), who support the HEWs and may have provided another perspective from a less powerful cadre of women working under the HEWs. The working relationships between HEWs and the women of the HDA may have been affected by the introduction of the new technology thus, it would be prudent to explore the opinions of this cadre of women who may have more limited opportunities to be heard and supported. If one goal of the technology is to support the lower cadres of female health workers, it is critical to ensure it also does this at the lowest tier of the health system and does not inadvertently disadvantage this group of women. Finally, the sampling of HEWs and supervisors was limited to who was available and willing to take part in the study, although no one declined to participate – this meant we were not able to speak with HEWs who were currently on maternity or sick leave which may have provided a unique perspective with regards to phone ownership and use. Nevertheless, we

were also able to interview respondents of various ages, locations and sex to help give a broad representation of responses.

3.6.3 Mozambique

I spent five weeks conducting fieldwork in Mozambique. Learning from my experience in Ethiopia, I pushed to ensure that I received transcripts and translations when in the field. This way I was sure the quality and topics discussed were suitable and could guide the research assistant more clearly on where I wanted to explore further. One limitation we did experience was the need to merge one FGD by sex in Moamba due to limited numbers of male and female APEs on the day to conduct them separately. Despite this, it didn't feel combining the two created any gendered power dynamics – the APEs presented themselves as a team and spoke openly about personal and community gender issues as a group and we elicited some rich responses this way.

Another potential limitation is the recruitment process being limited to those APEs and supervisors who were available on the day the team visited and who were willing to take part. In some instances, this meant that supervisors available were new to the programme and had more limited experience – however, this in itself provided a different viewpoint. Further, no one declined to be interviewed and we were also able to interview respondents of various ages, locations and sex to help give a broad representation of responses. We were also unable to recruit APEs who had since left the programme, due to the nature of the study, this may have provided an interesting perspective and an opportunity to hear why people had left first hand.

The language barrier was less of a limitation for me in Mozambique than in Ethiopia, this is because I was able to follow the conversations loosely due to my Spanish language skills. This meant I did have the opportunity to interject and ask Clara to clarify points if I felt they were not covered. Like with Yamrot, I made sure Clara fully understood the aim of the research and in line with a feminist, constructivist approach to data collection she was viewed as a beneficial active producer of knowledge and free to follow a line of questioning if it was of interest – this elicited some lively responses which are presented in chapter five. While the

issues of participant meaning being lost in translation may still be valid, using Clara for transcription, but Sozinho for the translation process worked well due to his strong command over the English language. He understood fully the aims and objectives and took care to translate based on meaning in Portuguese rather than taking a literal approach explaining local sayings and idioms. Finally, unlike in Ethiopia, where I had the opportunity to return the following year for a meeting, I have been unable to return to Mozambique to report on and validate my findings – however, the REACHOUT Mozambique team have been a central to discussions on my analysis, helping with validation.

Chapter 4: Results – Key informant interviews

4.1 Chapter overview

This chapter helps to answer the research question: *What is the current status of, and discourse on, gender responsive community health worker policy?* It describes the rationale for, and methodological approach to, international key informant interviews before presenting the findings that emerged and recommendations for the future of CHW policy making. It is presented in a paper format, but unlike chapters two and six it has not been published.

There is also overlap with some of the findings in the literature review chapter, helping to confirm the importance of, and to triangulate these findings – but here they are explored more explicitly from a policy perspective. There is also synergy with the findings in this chapter from Mozambique, with that in the chapter with empirical findings from Mozambique (chapter five) with regard to the changes being made at a policy level in order to address the sex disparity among CHWs in the country.

Gender barriers for community health workers – time for policy to catch up

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RS: Conceptualisation, Project administration, Methodology, Data collection, Data analysis, Writing – draft and editing.
ST: Conceptualisation, Supervision, Writing - editing.
MT: Conceptualisation, Supervision, Writing - editing.

4.2 Abstract

Evidence shows that gender norms and relations impact on community health workers' (CHWs) own working experiences and the relationships and issues that they negotiate in their daily work. Acknowledging this in policy is crucial to appropriately support CHWs and ensure more gender-equitable programming. I undertook a scoping exercise to explore CHW policy development processes and the extent to which issues of gender are taken up within this process.

In-depth key informant interviews with policy makers, policy implementers and researchers (n=7, 4x female, 3x male) were used to explore the gendered issues affecting the working lives of CHWs; CHW policy development processes; the extent to which gender is considered in current CHW policies; and current discourse around gender in CHW policy. Topic guides and analysis were informed by the Pan American Health Organisation's gender analysis framework *'Guide for analysis and monitoring of gender equity in health policies'.* This framework was selected due to its focus on human resource policies.

Gender norms, roles and relations shape employment patterns and recruitment of CHWs, as well as their experiences in the role. Yet, this is not comprehensively reflected in policies. A lack of sex disaggregated data on CHWs to support decision-making, as well as limited practical tools and guidance to support policy makers in introducing gender sensitive policies are stalling progress in this area. Limited input from CHWs and gender departments in policy development also means these issues are not brought to the table. Policy makers have limited resources and the policy making process often involves many stakeholders with multiple agendas, meaning that too often gender is not prioritised.

There is growing impetus to address the gendered needs of all healthcare workers including CHWs, but this is not reflected in national CHW policies. This is a missed opportunity to promote gender transformative approaches at all levels of the health system. Efforts should be made to improve sex-disaggregated data available for decision-making; include CHWs' in the policy making arena; and leverage gender champions in CHW policy making.

4.3 Introduction

Failures in human resources for health (HRH) planning can be traced to a failure to account for gender (Reichenbach, 2007). Currently, the formulation and monitoring of human resources for health policies often fail to include the dimension of gender relations which limits the development of best practices and the advancement of policies consistent with the principles of ethics and human rights (PAHO, 2009). Crucially, the absence of gender considerations in policy development has adverse implications on the effectiveness of policies for achieving equity and equality, and also on the effectiveness, efficiency, and sustainability of interventions (PAHO, 2009). It has also been argued that existing evidence warrants making gender inequality and gender discrimination an HRH research and policy priority (Newman, 2014a).

Acknowledging that health policies are not gender neutral and will impact male and female health workers differently, is a first step towards more gender equitable policies that will help to appropriately support HRH. The development of gender equitable policies is also aligned with the sustainable development goals (SDGs) five for gender equality for which target 5.9 reads *"Adopt and strengthen sound policies and enforceable legislation for the promotion of gender equality and the empowerment of all women and girls at all levels."* (UN, 2015) In light of this, recent literature has argued for more gender sensitive policies in HRH (Newman, 2014a, Standing, 2000, Witter et al., 2017) and specifically for community health workers (CHWs) who operate at the bottom end of the health system hierarchy (Daniels et al., 2012a, Steege et al., 2018b)

Studies have examined how gender shapes HRH (Donner et al., 2017, George, 2008, Witter et al., 2017) – however, there is limited evidence looking at gender-specific policy making for community health workers (CHWs), with the exception of Daniels (2012), which focusses on South Africa (Daniels et al., 2012a). Expanding this evidence is crucial - gender norms and power relations are likely to have a disproportionate impact for CHWs, who may be unable to navigate gender norms from an institutional setting (Steege et al., 2018b). Rather, CHWs operate within their own community and household spaces and continuously navigate relationships from the bottom up (Steege et al., 2018b).

Given, the limited consideration of gender revealed in the review of the four African REACHOUT country CHW policy documents (see 1.4), there is a need to understand to what extent gender is considered in institutional discourse(s) on CHW policies. This scoping exercise explores the gendered issues affecting the working lives of CHWs from the perspective of policy makers, implementers and researchers, and the extent to which these are reflected national level CHW policies; as well as to describe the actors and processes involved in bringing gender into policy development; and current discourse on gender and CHW policy.

4.4 Methods

Several tools exist to help address gender analysis in health policies (WHO, 2011a, PAHO, 2009, Morgan et al., 2016, Moser, 1993). The Pan American Health Organisation's (PAHO) *'Guide for analysis and monitoring of gender equity in health policies'* was specifically selected to help shape the topic guides and analysis (PAHO, 2009). It was chosen due to its focus on human resource policies, as opposed to addressing gender in health policies for the general population. It provides a conceptual framework for the evaluation of gender equity in health policies and some key questions that should be raised regarding gender equity in existing and proposed policies and practices in light of the issues indicated.

A qualitative approach was adopted to gain an understanding of institutional perspectives (e.g. within non-governmental organisations; ministries of health and research institutions) as well as the experiences and processes of CHW policy development (Hammarberg et al., 2016b). Individual key informant interviews were used to explore current discourse around gender and CHW policy and policy development from the perspective of international and national level policy actors, makers and implementers. The WHO's definition of health policy was adopted: *"Health policy refers to decisions, plans, and actions that are undertaken to achieve specific health care goals within a society. An explicit health policy can achieve several things: it defines a vision for the future which in turn helps to establish targets and points of reference for the short and medium term. It outlines priorities and the expected roles of different groups; and it builds consensus and informs people"* (WHO). Health policies were seen to include human resource policies, community health strategy documents, operational

guidelines and standard operating procedures. Specific disease policies that utilise but don't focus on CHWs were excluded e.g. HIV policies on defaulter tracing that 'use' CHWs.

4.4.1 Recruitment

A mixture of purposive and convenience sampling was used in order to reach key informants with relevant expertise in CHW programmes and policy making available at the time of the study. The Community Health Worker Thematic Working Group was leveraged to aid recruitment in addition to networks made via strategic meetings and conferences (see 3.4.1). This approach was deemed appropriate given the high level of expertise and interest members of the thematic working group and delegates of the conferences held. In order to mitigate the risk of bias due to convenience sampling, participants were also selected to try to ensure variation based on geographical location, sex, and job experience (table 4.1) (Mackey and Gass, 2005). Participants identified via the convenience sampling approach also led me to further participants of interest via snowball sampling. Further, policy makers working directly in community health programmes from each African REACHOUT context country setting were identified and approached directly to be interviewed. Only one policy maker from the four country settings was successfully recruited due to the high-level of the respondents approached who already had busy and demanding schedules. Hence, scheduling a convenient time for interviews proved difficult. Likewise, the demanding role of policy makers working in community health from other contexts who were also approached meant they were hard to recruit, thus there are only two respondents with the 'insider' government level insight, which is a limitation. Respondents approached were generally working at a higher organisational level than those approached for the context analysis. Though some national level policy makers from Kenya were interviewed as part of the context analysis, those interviews were not focussed on gender.

Table 4.1 Key informant respondent demographics

Country of Origin of Key Informants	***International or National focus (current position)***	***Employment***	***Sex***	***Method***
USA	*International*	*Senior NGO worker with experience working in global health and community health programmes.*	*Female*	*Skype*
UK	*International*	*Senior NGO worker with experience working in global health and community health programmes.*	*Female*	*Skype*
Afghanistan	*National*	*NGO worker/ policy maker (MoH) working in community health programmes.*	*Male*	*Skype*
Bangladesh	*National*	*Researcher/NGO worker developing new CHW policies.*	*Male*	*Skype*
India	*National*	*Senior researcher/ consultant and CHW advocate.*	*Female*	*Skype*
Mozambique	*National*	*Policy maker with experience of community health programme (MoH).*	*Male*	*Face-to-face*
Brazil	*National*	*Senior researcher and CHW advocate working in local community health approaches.*	*Female*	*Skype*

4.4.2 Data collection

Interviews were conducted via Skype, with the exception of one that was conducted face-to-face. Utilising Skype had the distinct advantage of allowing a wider range of participants by allowing us to transcend geographic boundaries (Lo Iacono et al., 2016). Prior meetings with participants at conferences helped to build rapport (Seitz, 2015) which can be a critique of using Skype technology (Cater, 2011).

Interviews took place from November 2016 – June 2017 and were conducted by RS in English, with the exception of the Mozambican interview - this interview was conducted in Portuguese with the assistance of a translator. RS was present in order to get a sense of the interview and clarify any concerns or questions.

Semi-structured topic guides were developed based on the PAHO framework and findings from the REACHOUT policy document review (as described in chapter 1.4). Topic guides covered how gender norms, roles and relations might impact CHW service delivery; the process of CHW policy development and the actors and information available; current status of discourse with regard to gender and CHW policies within a country or organisation (appendix 2).

Interviews were recorded with a digital Dictaphone. The recordings were transcribed verbatim. For the interview conducted in Portuguese the recording was transcribed into Portuguese then translated into English. Participant checking was employed to ensure participants meanings were appropriately extracted.

4.4.3 Analysis

The interviews were analysed inductively via thematic framework analysis using qualitative analysis software, NVivo version 11 (Ritchie and Spencer, 1994a). A coding framework was developed both deductively and inductively, using *a priori* themes from topic guides and the PAHO framework, as well as themes that emerged inductively from the data. Due to the wide-ranging contexts covered in the interviews, I took saturation of data to be achieved when no

new broad themes emerged – there were however, new context specific ideas that may not have reached saturation.

4.4.4 Ethics

Ethical approval was granted by the Liverpool School of Tropical Medicine (16-022). Written informed consent was obtained from all participants via email before interviews took place.

4.5 Results

Results will first introduce the gendered issues that CHWs face on the ground as observed by the key informants, before framing the process of policy development and actors involved and finally introducing the current discourse on CHW policy and gender considerations.

4.5.1 Gendered Issues facing CHWs

Participants from several contexts spoke of the empowerment that often comes with the CHW role for both males and females; they are leaders of the community, gaining prestige, respect and in some cases opportunities for paid employment. Nevertheless, there are also several challenges that women faced, due to the gendered norms of society limiting their ability to join, and remain in, CHW programmes.

4.5.1.1 Patterns of employment

Overall it was reported that there were larger numbers of women in the profession globally, due to an extension of their perceived caring roles and responsibilities. Several of the participants however, discussed the challenges in recruiting women as employment patterns are not only shaped by gender norms, but also cultural, political and religious norms as well as historical context. In Afghanistan, where the role of CHW is voluntary, despite a requirement by policy to have one male and one female CHW at each health post, it was reported there was a dominance of men in the profession as women were prevented from becoming CHWs due to cultural and religious barriers that prevent them travelling through communities. Without a woman at the health post however, the health post becomes non-operational until a new female CHW can be recruited, as policy states that all health posts

must have both a male and female provider for it to be functional. This impacts the functionality and sustainability of the programme as a whole.

Key informants from Brazil and Mozambique perceived that more men are entering the role which may be linked to availability of remuneration in these contexts (though it was reported sex disaggregated data was not available in Brazil). At the inception of the CHW progamme in Brazil, the role was dominated by women due to a requirement for maternal health tasks, and the association of it being a traditional caring role and the personality traits ascribed to the female gender. This served to reinforce the gendered divisions of labour in the country. The recent political push for regulation of the role, however, has seen the professionalisation, and importantly remuneration, of the cadre. This means the role now has a minimum salary and is seen as a career opportunity and an entry path to employment for men, in communities with minimal job opportunities.

The interviewee from Mozambique indicated that the country, which has a remunerated CHW programme, is currently struggling to recruit women in certain parts of the country. This may be due to communities selecting men for paid employment but is also influenced by marital status, geographic location and cultural norms that dictate women should conduct domestic work while men conduct paid employment. This demonstrates how gender norms relate with other factors to shape who has access to opportunities.

> *…currently our programme was designed to include more women, but we have difficulties in the central zone and the north zone due to cultural factors. The southern zones… have a greater number of women... there are many women with husbands working in South Africa and as a way to take care of the family women has to find something to do. This is the difference that we have, looking at the central zone and north the woman has to take care of the house, the woman has little time, she cannot do anything, she is dependent on the man, the man is the one who determines if she is going to work..*
>
> KII, Mozambique, male

Selection of men to undertake the role was also described by participants with experience working in different African contexts. Reasons perceived to be behind this were due to an increased ability for men to travel and ride motorbikes, an increased literacy among men and gender norms that associate remuneration to men's livelihood opportunities.

> *when you go to a village and you ask for a Village Health Worker, many parts of Africa they would put forward a man not a women, if there was a financial income attached to it. In African culture the man's role is to provide for his family so if there is a job on the table for them naturally it should go to a man, so you have to really deliberately address that to prevent the imbalances.*
>
> KII, international, female

This suggests the need for an inherent bias to select women in policies to achieve a gender balance and encourage female entry into the programme. One participant described how this process was done in Zambia, where the final application pool had to be 50% men and 50% women, to allow for community acceptability around being seen by someone of the same sex.

Literacy requirements for the role were reported to make the recruitment of women more challenging. Historically CHWs were not required to be literate, which saw large numbers of females in the role, however the recent introduction of a literacy requirement skews the gender balance towards men and it may be that policy has not yet caught up. For example, in Liberia, where the CHW programme is in its infancy following decades of civil war, women among the 18-50-year-old demographic being targeted for the role of CHW, were hard to recruit. This is often due high levels of displacement, or the death of parents, which forced girls and boys to drop out of school during civil war (Steege et al., 2018a). This highlights how context, age and gender come together to shape literacy and employment outcomes for this group, and by default impact on health outcomes for community members. For the time being communities in Liberia are being asked to positively discriminate towards selecting women to ensure they are not left behind but as literacy remains an essential criterion for the CHW curriculum this solution may yet present problems when the programme is scaled

up. Addressing selection barriers are particularly important in post conflict contexts, that already face challenges of recruiting adequate numbers of staff (Witter et al., 2017).

It was noted that while there are increasingly opportunities to further CHWs careers, lower literacy rates among women globally also means that women are disproportionately biased against for the selection for those opportunities. Female literacy in some contexts however, such as Bangladesh, is increasing. This may lead to increasing numbers of females moving up into supervisory roles.

In India, historically the CHW role was both male and female, however patriarchal norms in this context meant male CHWs were not comfortable being subordinate to female supervisors. This coupled with a focus on family planning meant the male role became defunct over time and now the ASHA programme is all female by policy, despite a rising burden of disease among men. This provides an example of how tasks can be gendered, in that it is culturally accepted for women to provide family planning services, which are important in shaping policies. It also demonstrates how gender dynamics evolve through time, but these changes are not yet reflected in policy.

> *No one could ever control the men, you know, it's a gender dynamic, in a largely patriarchal society if you didn't have male supervisors, they would not listen to the female supervisors and they would dump all the work on their female colleagues and I think the programme itself was so designed towards even the family planning programme was far more female sterilisation and female focused so these male workers didn't have so much work to do…as they dropped out of the health system the state never made an effort to recruit them, so in essence today we have a very small workforce of male multipurpose workforce when we need them much for now because of non-communicable diseases and how do you address alcoholism and tobacco among men?*
>
> KII, India, female

5.5.1.2 Career progression opportunities

Participants from India and Afghanistan highlighted career progression opportunities that existed for females to develop their careers if they wished. In Afghanistan, similarly to the Ethiopian context (see chapter six), female CHWs are given opportunities to develop their management skills by managing a volunteer cadre of women who operate below the CHW cadre – these groups are led by female CHWs, who are trained in management. There are also opportunities for literate CHWs wanting to move into the midwifery profession, to enter a training programme and become community-based midwives, operating out of the health facility. In India however, there are also prospects for CHWs with more limited levels of education and varying interests:

> *…states have provided money for ASHAs who are class 8 to study up to class 10 and then up to class 12, you know you have to have a basic grade 12 standard education to either apply for a college university degree, or even to get into many jobs, formal jobs… Many states have made reservations in nurses training schools for ASHAs because India has a huge shortage of multipurpose worker females as well as nurse… finally, many of them have stood for local elections and become representatives at local government levels.*
>
> KII, India, female

Additionally, in Afghanistan, the culture of '*mahram*' which means it is inappropriate for unrelated males and females to interact also means that the lack of women in supervisory positions can leave female CHWs disproportionately unsupported compared with their male counterparts, which may impact on long term career progression.

> *For sure as much as he can interact with the male CHWs he cannot interact with the female CHWs… It is not in all the cases but in some cases the community health supervisor cannot supervise the female CHW.*
>
> KII, Afghanistan, male

4.5.1.3 Mobility

Participants across the various contexts noted that current policies surrounding roles and responsibilities and available transport mechanisms may not reflect gendered norms and relations that influence women's mobility through communities. This reflects findings from chapter two. Career progression for example, as well as being shaped by literacy was also shaped by gendered norms surrounding mobility. Participants cited the difficulty of travel for women and the perception that it may be less acceptable for women to ride motorcycles compared with men as a reason that men are often found in supervisory roles. This was the case in Afghanistan where females are not restricted from becoming supervisors in policy but are in practical terms.

> *In Afghanistan for a female it is difficult, or even in some cases impossible, to travel alone and go to all these health posts and supervise these CHWs*
> KII, Afghanistan, male

In Mozambique, it was described how supervisory roles had more men due to increased literacy and ability to travel. Whereas in Bangladesh, although travel restrictions also exist for women, the lack of females in supervisory roles was perceived to be linked to patriarchal norms that persisted at the inception of the community health workers programme, rather than due to their limited ability to travel. The following quote demonstrates the interplay between mobility, literacy which influence career progression and how these gendered dynamics are subject to change over time.

> *…definitely it is inherent in our society that men will be able to reach any part of the country - even hard to reach areas. So maybe that consideration lead to the appointment of males- not that the female would not be accepted - to me it seems that… our forefathers at the time, they did not think that maybe one day we might be thinking of deploying or employing female supervisors… So, my point is that generally speaking females are not accepted driving motorcycles in the rural areas but that is not the reason why the government consider [supervisors] to be male...*
> KII, Bangladesh, male

In instances where women are found in supervisory roles issues arose not around acceptance of women riding the motorbikes, but around their physical ability to ride the bikes through the required terrain which needed on the ground solutions governed by gender or sex dynamics, that are not thought through at the policy level. This highlights local agency in problem solving - but with a potentially wasted resource and expense.

> *the supervisors go out into the community and this is really difficult terrain, sometimes you are going through jungle and going on hikes and these sorts of things, and we use motorbikes to get there and what we found is that a lot of the women, who are the supervisors going out, are petite, and actually getting them on a bike and having them actually be able to ride the bike through all this muddy terrain and navigate all of this sometimes it's just impossible… So [we send] out another person with them and usually it's a man but again, this is all stuff that at the national level it hasn't really been thought through how we are going to navigate some of these points but they are real life implementation challenges, that have a funny gender dynamic.*
> KII, international (Liberian experience), female

> *we did midwives on quadbikes because they just felt a lot more comfortable and at ease on the quadbike than on the smaller bikes, 2-wheelers. Especially in the rains, and if you're carrying a lot of equipment the quad bike is far better equipped to carry a heavy load, 2 people and also a larger woman!*
> KII, international, female

4.5.1.4 Training

Similarly, training logistics are often governed by gender, although not written into policy. For example, training may be split by sex depending on cultural preference (in Afghanistan), or women may be forced to drop out of training that is away from home over a long period of time due to their biological roles in reproduction or family disapproval (in Zambia).

> *where women were nominated they were sent to this training institution they are away from their family for you know, up to a year and it was very difficult because we*

have a couple instances where some women arrived, didn't know that they were pregnant, found out that they were pregnant and had to drop out which was hard for them because they were so excited and wanted to do this. Then another issue was men, if you will, just asking them to come back, they didn't feel comfortable with their wife being you know in a far-off place...

KII, international, female

In India, implementers of the ASHA programme actually found a way to circumvent some of the logistical issues around training due to innovation via a strong feedback mechanism to policy makers from female 'nodal officers' representing each state. This feedback can be harnessed at the national level and written into policy. As such, they now conduct short modular residential, training which is run by female facilitators and some states even provide on-site child care to allow for women to bring their children with them to the training.

our training is all modular… we knew we had to have women stay because if you want to train women, especially low literate women, you need to build a sense of solidarity, you need to have the trainers around them so that they could help them in the evenings and if they begin to go home then they are constantly worried about childcare etc. In fact, some state governments even had extra funding to hire a child care worker, so that ASHAs who had little children could bring them and leave them with the child care worker…

KII, India, female

4.5.1.5 Safety

As highlighted in the literature review in chapter two, safety is an emerging issue for CHWs in the community (across several different contexts). Another policy innovation from India was the introduction of designated safe spaces for the ASHAs to wait while they are attending expectant mothers. One of the primary focusses of their work is to escort expectant mothers to facilities for delivery but found while they were waiting, they were vulnerable to verbal and physical sexual harassment from ambulance drivers, other health staff and community members. Due to support and feedback from the nodal officers, the government introduced

safe waiting spaces for them and developed a module called '*Action for ASHAs on Violence against Women*' in response to ASHAs being harassed by male ambulance drivers and doctors. Despite this, it was perceived that issues remain around gender sensitisation of the whole community - critical to ensuring their safety in their ongoing work.

> *So you have to have a programme that sensitises every service provider male and female above the ASHA to gender - that hasn't happened and that's terrible because the ASHA can be as aware of gender issues as you care to make her and then she goes into this person's house and gets raped.*
> KII, India, female

Other solutions to increasing the safety of female CHWs are working in male-female pairs (as in Mauritania) to work around the limited security and freedom of movement of women in internal areas. Although in some contexts, such as Liberia, this was perceived to be an inefficient use of resources as the male accompaniment did not carry out any community health work but only went to ensure the safety of the female supervisors.

4.5.1.6 Attrition

In Zambia and Mozambique, marriage was also cited as a reason for attrition rates among women that make it harder to keep women in the profession. This was because women would follow partners to their home village and therefore be unsuitable for the role of CHW that dictates a CHW should come from the community they serve. As well as pressure from family dictated by gendered and sex-determined reproductive roles.

> *…women would get to a certain point in their career and find that they had family obligations…women were being asked to go and live in these very, very rural areas where the health facility doesn't really have anything and they are working in impossible circumstances and their family is saying 'why aren't you getting married, why aren't you starting a family?' you know they are having a hard time staying.*
> KII, international, female

4.5.1.7 Remuneration

Finally, as also demonstrated in chapter two, remuneration is a key issue affecting this cadre. Double standards when it comes to the remuneration of men and women are seen the world over at different levels. The CHW cadre is no exception, which often relies on voluntary, female labour. The importance of political unions may play a crucial role here in securing fair pay and rights for all CHWs as demonstrated by the unique political circumstance in Brazil, that allowed for the formalisation of the cadre.

> *It began to be viewed as a career option and as an option of a job rather than a leadership role, so they began to demand more salaries and more formal contracts and rights around work. In 2000 it was really strong this movement, so they were able to make a lobby to Congress and it was approved as a law and it was recognised by a law that they were health professionals from the public health system in Brazil…*
> KII, Brazil, female

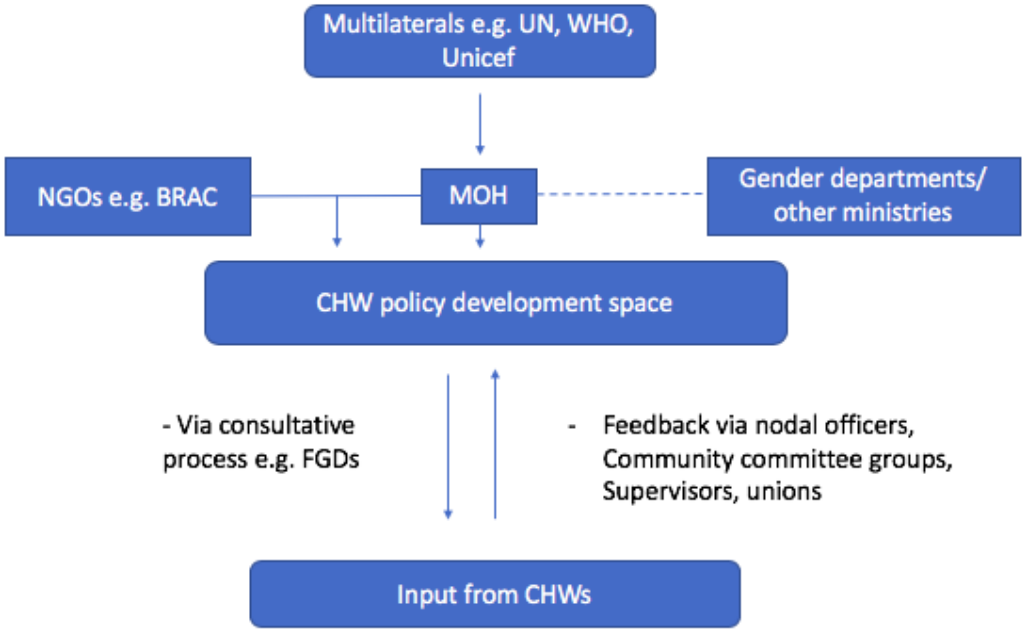
> *[I recommend] to make the ASHA a regular salaried worker. You know we can compare this with men (multipurpose worker) who were paid and unionised. You can bet if there were males ASHAs today they would be paid*
> KII, India, female

4.5.2 Process of policy development and actors involved

Policy change and development for CHW programmes was cited as something that occurs regularly in developing country contexts, due to a change in government officials, cabinet reshuffling, or as in the case of Sierra Leone, in response to disasters such as the Ebola outbreak. The outbreak of Ebola highlighted not only the importance of, but the weaknesses of, the CHW programme and provided an opportunity to reshape the policy due to an increase in donor funding. Participants from all contexts also spoke of the collaborative process of policy development which includes government department representatives, major international funders and multilaterals and community partners who convene together via working groups or consultative processes (as illustrated in figure 4.1) to address the pertinent

issues within the policy. However, the extent to which revised policies were used was questioned, especially in the case of externally developed guidelines.

Figure 4.1 Broad CHW HRH policy development processes and actors across contexts



Women's organisations in particular, have been critical to ensuring that women have a voice and the ability to insist that all actors be accountable (Sen and Ostlin, 2008). However, despite the intersectoral process that was described, when probed it seemed that input from specific gender departments or women's organisations were limited, seen as something outside the health sector, and only there when strictly pushed for by external stakeholders. This was true, even in Brazil which has a very formalised process of policy development.

> *In Brazil there is a very strong structure for social participation and community participation in health policy but the [gender related movements] do not occur in terms of the construction of each policy…*
>
> KII, Brazil, female

The interviewee from Mozambique described how working relationships do exist between government departments - such as Ministry of Health and Ministry of Economy. However, these linkages were reported to be not as strong when developing CHW policies.

In India the key informant cited the existence of female state nodal officers as another way to successfully get gender issues brought into policy. These female nodal officers serve as a formal way to feedback to the national level. Their ability to articulate issues and advocate for change at higher levels, including the Ministry of Health, was instrumental in getting harassment against ASHAs and violence against women prioritised above other issues and into the training curriculum at the higher levels. India also has a more devolved process of policy development – where each state has the flexibility to create their own policies. Due to the presence of nodal officers this can sometimes filter up to create change at the national policy level.

> *I don't think it was written into the policy then, but it came up as a policy I think a couple of state governments actually experimented with it and then we said we'll put it in the policy, the national policy, I think a couple of states had done it and it started from a couple of states... I mean every ASHA I think finds a way to do her thing and a district officer picks something up and says oh this is a good idea, and then a state nodal officer will pick it up and there has been quite a lot of innovation, the good thing is that we have been able to harness that innovation as policy at the national level.*
> KII, India, female

Further roadblocks to more gender responsive policy making were the limited voices of CHWs in policy making, and the limited capacity of policy makers in gender- programming. A call for clear and tangible areas and guidance of how and where gender could be incorporated into CHW policy was suggested:

> *I don't think we are quite there yet with the gender policy because there aren't that many places where there's been a listening process to what CHWs want, sitting at the table, defining the policy, people still need to know, if we are to be gender equitable what do we need to do to be intentional about gender inclusion. They don't know what*

that mean you see. When you spell it out for them like in your wonderful [conceptual framework] - they've got some very clear areas people can lift out when they see that they'll go 'ah yeh that makes sense' but people are still extremely gender blind and are driven by their norms - their own norms - so people don't know when they are being gender discriminatory at all.

KII, International, female

As well as the need for evidence from similar contexts. Some participants also stressed the importance of South-South learning to demonstrate what works within their cultural norms or boundaries, as illustrated in the quotes below where countries look to what works in countries with similar cultures to their own.

I will say, when it comes to gender conversations, the countries opinions of their own culture will always take precedence over external guidance that something should be done in a certain way, so it really depends how receptive people are to gender transformative programming… and that's where they look very heavily to evidence from their own country experiences or south to south learning, experiences of countries that have a similar culture to their own.

KII, International, female

I need to learn more about the issue and see how it has been done in other countries as well, [such as the] Nepal experience and to some extent to India experiences and they have been able to improve the CHW strategy/ protocol/ responsibility, particularly for the female CHW - so I need to learn from their experiences as well, as these societies are more or less the same as us, the cultural context, the religious bindings, more or less the same in those countries.

KII, Bangladesh, male

4.5.2.1 Input from CHWs

The policy development process is done from a top down approach and whilst input from CHWs via consultative FGDs, surveys or community committees is common, it is more of a

checking process, rather than one that assesses the needs and norms of the community. Participants felt there was not enough engagement from CHWs from the start. There is limited opportunity for CHWs to bring their voice and embedded knowledge into policy making.

The ASHA programme's nodal officers served as a good example for a more formalised feedback mechanism and an opportunity for cross state learning due to annual nodal officer meetings. There were several examples of solutions on the ground that filtered up into national policy, such as the waiting rooms for ASHAs in health facilities with high delivery rates, which is now included in checklists and has funding allocated to the creation of these spaces. Other mechanisms of including the voices of CHWs and the needs of the community in other contexts were via local level advocacy groups, standing communities with local council members and consultation processes with CHWs by informal focus groups and surveys.

> *…it may be the case that being the female CHW that he/she might not be allowed by her in-laws to visit [households], to be available in the field late in the day, maybe she is not allowed to talk with the male counterparts of the community people, so these small issues, although seem small, have much more impact on the activities of the CHW doing over there so they [the standing committee] can play a role, be a mediator, be a catalyst, they can be a problem-solver to all those problems that may be originated from the gender issues. This is when we are seeing them you know the potential opportunities of those standing committees*
>
> KII, Bangladesh, male

In Bangladesh however, it was also stated that despite there being an initiative to create the committees, they were not always functional. Moreover, even if committees were functional the extent to which gender issues are currently being brought and filtered up is unknown. The elected representatives of these local committees in patriarchal societies are likely to be predominantly male and used to working within the cultural and traditional norms. Female community members and female CHWs are more likely to be excluded from these

committees and have more limited opportunities to voice their specific concerns – when they are included, existing power dynamics may also stifle their voice.

In Brazil, the existence of unions meant that CHWs had the opportunity to write their own bills and policies and lobby to congress to get these bills passed. The existence of this process was crucial, as historically, forums for input into the construction of health policies were closed, and there was a politically motivated selection process of attaining CHW voices, suggesting a tokenistic involvement.

> *there is a kind of selection, a political selection, and usually of course they pick the ones who they think of closer to the managers and they feel will not complain that would not cause much tension. So those spaces for debates are organised, and because they are organised in Brazil it would be very bad for some health policy to be built or implemented without consultation of civil Society …*
> KII, Brazil, female

4.5.2.2 Fragmentation of actors

Fragmentation of actors, donors and organisations funding and delivering community health programmes in a country was also cited with regard to policy development – as well as the power relations that come into this process. As is common in community health programmes there are often multiple NGOs leading separate vertical programmes. Each party has their own agendas, funding and competes for policy space. There was said to be limited scope for collaboration between these groups and less definite structures for the NGOs. Each vertical programme or NGO has their own documents, materials and in some instances CHWs that compete with the government programme interests.

> *It is not well structed to collaborate all international partners together and collaborate with these international partners. And each partner is coming to Afghanistan with their specific agenda for gender. They want the ministry to be their project, rather than they are the project of the ministry.*
> KII, Afghanistan, male

I think that's part of the problem in that they each have individual mandates and also they receive separate funding from different entities, different donors so that's why I'm saying its quite challenging sometimes to get them to work together.

KII, International, female

Power relations in policy making were intrinsically linked to funding – with the major donors holding more power than those actors who are involved in policy guidance. This can cause tensions when the government programmes are not aligned with funders as power relations are at play during the policy making process.

WHO are often engaging in these things but they are often not as powerful as UNICEF because WHO don't have any money, they are just policy guidance. So, they often elicit the process, start the process of policy review and provide the guidance for the countries to take that's their role, but who makes the decisions it can be depending on the power dynamics in the room

KII, International, female

BRAC is a huge partner and have a huge stake and a huge influence over governments as well as outside the government and people regard them as something great and we also think that they have huge potential, but the thing is that they are not in most cases in line with the government policies so we need to be more critical and more strategic to utilise BRAC strand for the improvement of community health work in Bangladesh. Because they have got huge capability, huge strength.

KII, Bangladesh, male

This also suggests that gender departments and women's organisations would have little influence if they were involved as they would not be primary funders of CHW programmes, and that to get gender into policy making, the key funders would need to be on board.

4.5.2.3 Input of data for decision-making

Health management information system (HMIS) data on CHWs are relatively new and may not always be disaggregated by sex.

> *Well until about 5 years ago it has been really, really challenging because that information isn't really there. So, what UNICEF have been doing a lot of, because they have a lot of work on equity,… [is] mapping surveys as they did in Sierra Leone.*
> *KII, International, female*

Further, when data are disaggregated by sex, it is not necessarily used to support decision-making around gender at a CHW policy level. This presents problems for integrating gender sensitive country level indicators which are essential to guide CHW programmes and policies.

> *Q: You can see the sex disaggregation by database but is it ever used to check compliance with how gender equal the HRH teams are and used to support decision-making?*
> *A: Decision-making in terms of gender – honestly talking, no. But for rationalisation of health post location but not for gender related issues… from my experience no we don't use database for CHW research.*
> KII, Afghanistan, male

In Afghanistan and Bangladesh several HMIS systems are in existence alongside each other, which show issues related to the deployment of CHWs such as how many are retired, the location of health posts, which health posts are active. However, in Mozambique the HMIS is relatively new and still being adapted – currently the data collected includes information on malaria at community level, but this was reported to not yet be disaggregated by sex, which should be the critical next step towards more gender equitable programming ahead of collecting data on the CHW breakdown.

4.5.3 Discourse on gender sensitive CHW policies

The inclusion of gender sensitive policies for CHWs is an emerging theme and one that was becoming more commonplace for participants from research and NGO institutions. The sense is that this is gradually filtering up to national policy makers and is beginning to gain recognition and traction on a global scale. Respondents spoke of an attitude shift occurring towards the necessity for the inclusion of gender responsive policies at the community health worker level but that 'we weren't quite there yet' and current research into this area were still focused on demand-side rather than supply-side barriers. Policies that did include supply-side barriers, rarely extended further a consideration on the literacy restrictions that surround women.

> *I would say that I have not encountered a country where there is a specific gender policy for CHWs that isn't just a culture preference or literacy*
> KII, International, female

Within NGOs that witness the impact of gender norms on their community health worker programmes on the ground, there appeared to be greater considerations for gender, and some talked of instilling 'gender champions' within their own organisations who were responsible to highlight gender considerations and bring these to the table. Participants also spoke of how once a cultural shift had occurred, the structural changes can follow – particularly in Brazil where strong unions and lobbying from CHWs creates change at the structural level:

> *I think it's a way to some kind of culture change I don't know when it will become a structural change, I believe it will because I think this process goes together because once they will require positions of decision, they will require better salaries*
> KII, Brazil, female

In the case of Mozambique, the key informant described the positive changes towards including gender in CHWs policies (which are also explored in chapter five). In an effort to recruit more females to address the sex disparity among CHWs in the north of the country

modular training is being instilled as an option. This may particularly benefit women who find a four-month training programme away from home difficult to comply with due to their domestic role in society. On its own the policy does not itself encourage a more gender transformative approach, however, speaking with a representative from the Ministry elicited how this approach will occur alongside sensitisation strategies to change the norms of society that dictate women stay home to care for the home and the children.

> *A: Let's look at the northern zone where I said I had a larger number of men - I think when I refer to behaviour change it's to value women, prioritise women in the community, when she has priority to do something and not be prevented by having to stay at home to take care of the house and the children because it is her role, this is not how it has to be.*
>
> *Q: And how could this empowerment of women be made?*
>
> *A: Instilling people, sensitising… let´s, raise people's awareness and say "Water dripping day by day wears the hardest rock away" [if you persist with small actions you can succeed]. So our colleagues in the north often stop the woman from entering the programme because a lot of the time the woman is going to stay four months… so now we as a programme are thinking in another way, [let's] involve more women by giving the training with periodic interruptions giving priority to the woman to who returns to work in her community of what she has learned and then returns [to training], this is one initiative that we now have.*
>
> KII, Mozambique, male

4.6 Discussion

Our analysis reveals the limited extent to which gender norms are considered in policy with regard to CHWs situational needs, despite approaches on the ground often being governed by gender norms. This highlights a disconnect between policy and practice in spite of a recent impetus to include a gender responsive approach to policy guidelines and documents. This is perhaps unsurprising given the complexity of the policy making process. In some contexts, structural barriers such as lack of funding, or lack of input from women's departments or collaborative structures to bring gender issues into the policy making area still exist and can

be a reason why gender has not been considered in CHW policies to date. Further, NGO workers and researchers felt fragmentation of NGO and government CHW programmes; the lack of evidence and practical tools to guide policy in this area; the lack of a formalised process for CHWs input; and the prioritisation of other issues and wide-ranging external factors were roadblocks to countries adopting more gender sensitive CHW policies. All respondents, including the MoH representative from Mozambique, also cited the lack of sex-disaggregated data as a limitation. Some participants also spoke of a resistance that stemmed from the historical, religious and cultural contexts that exists within countries, highlighting the importance of context in policy setting.

The PAHO framework helped to frame interviews by highlighting key areas that require consideration and explicit discussion from a gender and human resource perspective. It also provides questions for consideration that we can apply to the evaluation of current policies for CHW cadre: *To what extent does the policy help to actively promote gender equity and equality? and; To what extent does the policy disregard, create, or exacerbate gender inequalities?*

Some gender sensitive strategies exist around the training and education opportunities for female CHWs working within certain contexts (e.g. Afghanistan and India). In some contexts, however, these are only available to women who meet the literacy requirements hindering gender transformation at scale. While literacy was reported to be improving in some contexts e.g. Bangladesh, without active investment and effort to address female literacy and educational opportunities at the community level, women will continue to be left behind and have limited opportunities to enter the health system at the community level, and progress upwards.

For the most part policies seem to work around current societal and cultural gendered norms, rather than working to address them. CHWs come from the community they serve and therefore gender norms that impact community members seeking healthcare also impact CHWs providing healthcare. Current policies largely miss this crucial link and where supply-side gender norms and relations are considered, they rarely extend beyond gender sensitive selection strategies. For example, the limited autonomy and free movement of women in

some contexts (e.g. Bangladesh and Afghanistan) not only prevents them from accessing healthcare in the communities but prevents female CHWs serving those communities and in particular, taking on the role of supervisors. In this way policies do not actively work to progress the career options of women, but further reinforce the occupational segregation that is seen within the global health workforce where women are under-represented at higher levels. Additionally, policies that rely on un-remunerated female labour also place women at further risk of exploitation, reinforcing their position in society and assuming that women's work is less valuable than men's.

4.6.1 What is already known on this topic

This study both adds to the current literature, as well as expands its focus beyond a single country setting. Findings that employment patterns, attrition, career progression, mobility and safety for the cadre are all influenced by gender dynamics at the community level align with wider literature, as laid out in chapter two (Mumtaz, 2012a, Najafizada et al., 2014a, Olang'o et al., 2010, Razee et al., 2012, Steege et al., 2018b). With regard to policy making processes, the scope of the policy space has been shown to be influenced by both national and international contextual factors (Grindle and Thomas, 1991). This was found to be true in our study where contextual factors, such as war, or situational events such as the Ebola epidemic focussed attention towards the CHW policy and provided a window of opportunity for change.

Multilateral and bilateral donors and NGOs play a key role in shaping the domestic policy process (Crichton, 2008, Walt and Buse, 2000). Thus, creating more gender responsive CHW policies will need a concerted effort from these groups too. In accordance with literature from South Africa (Daniels et al., 2012a) we found policy development processes across several contexts, whilst collaborative in process, often miss out representation from gender departments. Further, policy making is complicated by the multitude of actors with their own agendas and the power that comes with funding.

High levels of fragmentation and contradictory influences have been shown to have a harmful impact on service delivery at the community level. It has been linked with poor coordination

and coverage of vertical programmes in Kenya (Otiso et al., 2017a); increased reporting and workload in Malawi (Kok et al., 2016); and can be amplified in contexts with an over reliance on external funds, aid conditionalities and persistence in vertical programming (Walt and Buse, 2000). Donor influx and fragmentation was also shown to a problem in a review of gender sensitive policy making in post conflict settings (Percival et al., 2018). This was also cited by respondents in our study as a particular issue when rebuilding after disasters or outbreaks such as Ebola – our study also notes the limited attention to gender-equity in contexts rebuilding post conflict e.g. Sierra Leone and Mozambique.

Structural barriers such as lack of budget, or competing priorities were also named as a reason gender has not been fully considered in policy. This has been cited as a common phenomenon as policymakers are confronted with a multitude of competing issues but limited resources for dealing with them (Shiffman, 2007). Further reasons cited were the lack of understanding of policy makers as to how and what it means to mainstream gender into policy making. This has also been questioned in literature from South Africa (Daniels et al., 2012a), highlighting the need for tangible guidance in this area globally. Finally, minimal, or tokenistic inclusion of CHW and community actors voices in policy making as cited by participants affirms research done in Kenya (McCollum et al., 2018) and South Africa (Daniels et al., 2012a).

4.6.2 Future research and recommendations

There are key gaps around the gendered impacts of policies that support recruitment and retention and how to support career progression and advancement. These warrant further exploration in order to inform policy making. Further, as health management information systems continue to be strengthened and use of mobile technologies for data collection by CHWs, and training of CHWs, gain traction – there is a need to explore how policies around technology and the CHW cadre can incorporate a gender focus from the outset.

Strengthening CHW policies requires context specific evidence and solutions, as well as critiquing the upstream social drivers of inequity. This will entail exploring the differing needs of male and female CHWs and thinking through the circumstances that arise from existing policies within political, historical, cultural and gendered boundaries. Nonetheless, there are

some key gaps in the processes of policy development that require attention in order to facilitate more gender-responsive and equitable policy making. These processes are crucial to the development of proposals aimed at strengthening, reorienting, complementing, or replacing existing policies.

1. *Including CHWs voices in decision-making processes* –

When new policies are developed the extent to which revised policies were used was questioned by some respondents, especially in the case of externally developed guidelines. Policy evaporation therefore is also something to be considered when developing new policies and links to the importance of policies being developed from the bottom-up, utilising CHWs embedded knowledge and giving space to hear their experiences of challenges and opportunities on the ground. CHWs, both male and female need more opportunities to input into policy making from the start of the process. As Gilson (2003) notes "*where decision-making approaches allow engagement and dialogue with citizens they are more likely to build trust"* – but only if they recognise the particular constraints experienced by vulnerable groups (Gilson, 2003).

Women remain underrepresented in the community power structures that set priorities and allocate resources for health (PAHO, 2009). Amplifying the voices of female CHWs in policy development would not only contribute to their empowerment but may challenge some harmful gender norms as a result of them being able to voice their particular constraints. This creates opportunities for more responsive and inclusive health systems. Further, greater female representation in policy making positions is needed at all levels of the health system as policies are continually decentralised to local levels (e.g. India). Strong feedback mechanisms for female health workers as demonstrated in India are also crucial to ensuring policies and ways of working are no longer set to male norms (Standing, 2000).

2. *Data, evidence and tools to support change* -

The importance of having good quality data and indicators disaggregated by sex and other key social stratifiers for both the population and the health workforce, cannot be overstated (Sen and Ostlin, 2008). Data on the demographics of the CHW workforce are limited, as well as the extent to which these data are used to aid decision-making. It may be argued that this

is due to the lack of formalised cadres in many contexts. As countries move towards formalised, salaried CHW programmes more information may begin to be included that will enable countries to undertake gender equity analysis of their community health workforce. This is not a given however, and the lack of sex disaggregated data on CHWs holds true in contexts with a formalised CHW, such as Brazil, as much as those that have a voluntary health workforce. The policy making space is largely influenced by political and contextual factors. However, without comprehensive data disaggregated by sex and other key socioeconomic categories to identify and locate inequalities, it will remain impossible to conduct a thorough equity analysis of the cadre and gender imbalances will persist. This information will be crucial to determine, for each sex, the ratio between contributions and compensation for their respective health work and characterise the level of participation by women and men in health-related decision-making at the family, community, sectoral, and national levels (PAHO, 2009).

Recognition of the interaction between gender and other social factors is critical and requires an intersectional lens – but this requires country level information and data on the CHW cadre that is appropriately disaggregated. The lack of high-quality data, as well as common ways to define, frame, measure and act on gender discrimination for this cadre may be a reason for limited attention to gender barriers for CHWs by policymakers (Newman, 2014a). What is actively needed are practical tools and guidance that move beyond taking gender equity into account in selection – but provide a fully comprehensive gender responsive CHW package that includes gender sensitive strategies for CHW selection, training, mobility, supervision, remuneration, safety and security and career progression.

3. *Involvement of civil society and women's organisations –*

While intersectoral collaboration comes with challenges, it is increasingly being recognised as essential to meet the requirements of the SDGs (Nunes et al., 2016). Input from gender departments and women's organisations – which have shown success in increasing the number of female CHWs in the Democratic Republic of the Congo (Steege et al., 2018a) – is critical to progress towards gender equality. Intersectoral collaboration will allow for the technical capacity to implement, and the institutional infrastructure to support, gender

responsive policies. It will also prove beneficial for mechanisms of accountability and monitoring by providing an external accountability structure (PAHO, 2009, Heymann et al., 2019). Ensuring the safety of this cadre also requires a cohesive support network that draws on both community leadership, local government and policing as well as national level structures that protect and enforce the law. Further, civil society has a central role to play in creating political change and getting CHW issues onto the political agenda – by leveraging civil society the principles of gender equality are demanded to be respected and CHW rights upheld, as demonstrated in Brazil.

4.6.3 Limitations

Both a strength and a weakness of this study was its international lens – while this allowed for a broader lens and for comparisons to be drawn across contexts, it limited opportunities to explore deeply the policy making processes within each country and some of the nuances here will be lost. As a result, it is difficult to claim saturation as new contexts brought new findings and ways of working. Further, the process of policy making is complicated and not necessarily overt – making it difficult to unpack (Exworthy, 2008).

A further limitation was that I did not explore the initial decision behind whether or not countries had an all-female cadre explicitly. How this decision was reached, and how it shapes subsequent policy could have been interesting to explore. Some of the historical context around this was discussed e.g. in India where the programme was historically male, though not explicitly in each context. There were also limitations to the sampling approach used. Convenience sampling is criticised for having hidden bias and limiting the pool of respondents (Etikan et al., 2016). It was deemed appropriate in this instance in order to utilise strategic opportunities (e.g. conferences) where many experts in the field of community health from different contexts and backgrounds were gathered. This also allowed for face-to-face meeting ahead of Skype interviews (which were scheduled for a later, convenient date) to build rapport with respondents. Recruitment of policy makers at a national level also proved challenging and their representation in the sample is limited – there is only one representation of the four African REACHOUT countries which is a missed opportunity to compare and contrast between them. Of note, many of the participants who agreed to be

interviewed were researchers or implementers currently in the process of developing new CHW strategy documents and wanted to understand more about the specific gender dynamics at play for CHWs. Or had a prior interest in gender issues, which may have biased the results. Though these results do not claim to be generalisable and in-depth studies for specific contexts are advised. Nevertheless, the synergies between the findings here and those within the literature review provide confirmation of some key issues. Exploring these from a policy perspective allows these issues to be taken forward.

Finally, we must consider positionality. In order to yield the richest data exploring policy a study team of an insider and outsider is ideal (Walt et al., 2008). I held the role of both an insider and outsider depending on the interviewee in question. With researchers, the role of insider allowed for the elicitation of rich discussion though may have presented more bias due to a keen interest in the subject area. My positionality as someone with a strong gender interest is clearly demonstrated in one of the quotes where a respondent had seen the conceptual framework developed for chapter two and was interested in gender issues for CHWs. The role of outsider, when speaking with NGO workers and policy makers, allowed for more objective analysis but may also have meant some of the depth and nuance required to fully comprehend the complexity of the policy making processes and political landscape were not fully clear. Quotes have been included in the results to allow the reader to make their own interpretations of the data.

4.7 Conclusion

Gender norms and relations interact with other axes of inequity to shape CHW service provision. While there is growing impetus to address the gendered needs of all healthcare workers including CHWs, this is often not reflected in national CHW policies. A lack of evidence and guidelines as well as appropriately disaggregated data on the CHW workforce and inadequate feedback from CHWs themselves may be stalling process in this area. This is a missed missed opportunity to promote gender transformative approaches at all levels of the health system.

Chapter 5: Results – Mozambique

5.1 Chapter overview

This chapter aims to answer the research question: *How can the health system enhance gender responsive strategies to support recruitment and retention of both male and female Agentes Polivalentes Elementares in Maputo Province, Mozambique?* It outlines the rationale for, and methodological approach to the empirical research undertaken in Mozambique. It uses the conceptual framework developed within the literature review in chapter two to frame the results around the APEs' experiences of recruitment processes and retention. Finally, it gives some key areas to support the recruitment of women into the role of APE and improve retention of APEs.

It is under review at Human Resources for Health. Contributions of co-authors are clarified on the following page.

Redressing the gender imbalance among Mozambique's community health workers: Analysing recruitment and retention

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5.2 Abstract

Mozambique's community health programme has a disproportionate number of male community health workers (known as Agentes Polivalentes Elementares (APEs)). The government of Mozambique is aiming to increase the proportion of females to constitute 60% to improve maternal and child health outcomes. To understand the imbalance, this qualitative study explores current recruitment processes for APEs and how these are shaped by gender norms; and how gender roles and relations influence the experience, and retention of APEs in Maputo province, Southern Mozambique.

Although the policy advocates communities should preferentially select female candidates, intra-household decision-making structures mean women may experience additional barriers to join the APE programme, often requiring their husband's consent. Training programmes outside of the community were viewed positively, as an opportunity to learn in a different environment. However, women reported difficulty leaving family responsibilities behind, and men reported challenges in providing for their families during training as other income generating opportunities were not available to them. These dynamics were particularly acute in the case of single mothers serving both a provider and primary carer role. Differences in attrition by gender were reported: women are likely to leave the programme when they marry, whereas men tend to leave when offered another job with higher salary. Age and geographic location were also important intersecting factors: younger male and female APEs seek employment opportunities in neighbouring South Africa, whereas older APEs are more content to remain.

Gender analyses of human resources for health are rarely extended to the community level. This study highlights that gender norms and power dynamics intersect with other axes of inequity such as marital status, age and geographic location to impact recruitment and retention of the community health workers. Health systems strengthening requires creating equitable, responsive policies to support gender equity within APE recruitment processes and their responsiveness to the populations they serve. Gender transformative approaches at all levels – within households, communities and health systems, need to be implemented to promote more paid employment opportunities for women within the health workforce.

Resumo

O programa de saúde comunitária de Moçambique tem um número desproporcional de agentes comunitários de saúde – Agentes Polivalentes Elementares (APEs) – do sexo masculino. O governo pretende aumentar a proporção de mulheres para 60%, para melhorar indicadores de saúde materna e infantil. Recorremos aos métodos qualitativos para explorar os processos de recrutamento dos APEs e como estes são moldados por normas de gênero; e como os papéis e relações de gênero influenciam a experiência e retenção dos APEs na província de Maputo, Sul de Moçambique.

Embora a política recomende às comunidades para escolherem preferencialmente candidatos do sexo feminino, as estruturas decisórias intrafamiliares, implicam que as mulheres podem experienciar barreiras na adesão ao programa dos APE, exigindo frequentemente anuência dos esposos. Os treinamentos fora das comunidades representam aprendizagem em ambiente diferente, todavia, as mulheres relataram dificuldades em deixar as suas responsabilidades familiares, e os homens desafios em prover assistência as suas famílias. Estas dinâmicas agudizaram-se para mães solteiras com o papel de provedoras e de principais cuidadoras. A atracão do programa por gênero revelou que as mulheres tendem a abandonar o programa quando se casam, e os homens a abandonarem quando são oferecidos melhores empregos. A idade e a localização geográfica demonstram que os APEs mais jovens buscam oportunidades de emprego na vizinha África do Sul, e os mais velhos tendem permanecer no programa.

A análise de gênero nos recursos humanos em saúde raramente é estendida ao nível da comunidade. Sugerimos que as normas de gênero e a dinâmica de poder se cruzam com outros eixos de desigualdade, como estado civil, idade e localização geográfica, para influenciarem o recrutamento e a retenção dos trabalhadores comunitários de saúde. O fortalecimento dos sistemas de saúde requer políticas mais equitativas e sensíveis para apoiarem a equidade de gênero nos processos de recrutamento dos APEs e sua capacidade de resposta às populações. É preciso implementar abordagens de gênero transformadoras em todos os níveis - negregados familiares, comunidades e sistemas de saúde - para promover oportunidades de emprego mais remuneradas para as mulheres dentro da força de trabalho em saúde.

5.3 Introduction

Following independence in 1975, Mozambique has promoted a health policy based on the principles of broad and equitable access to health services through sustained expansion of the primary healthcare system (Lindelöw et al., 2004, Ndima et al., 2015b). In 1978 the community health worker (CHW) programme was introduced to meet the needs of rural communities experiencing limited access to healthcare services. Following 16 years of civil war (from 1976-1992) the CHW programme was left without adequate supervision or technical support and was suspended in 1989 with an expectation it would reopen when the context allowed (WHO, 2013, Chilundo et al., 2015, MISAU, 2018). In 2010 Mozambique launched a revitalised community health programme. CHWs in Mozambique are known as Agentes Polivalentes Elementares (APEs), meaning "essential [or elementary] multi-purpose agents" and this is the term we will use in this paper.

Mozambique's limited health sector workforce is one of its greatest barriers to the independent provision of quality services (Edwards et al., 2015, WHO, 2013). Recognising this, the Mozambican government aims to expand the APE programme from the current 16% coverage to reach 35% of population by 2024 (MISAU, 2018). The APE programme recommends that the time should be divided between curative services and health promotion activities 20:80, respectively. APEs undergo a four-month training programme that reflects the focus on these services, with emphasis on maternal, neonatal and child health, as well as first aid, recognition of common diseases - malaria and diarrhoea - and referral to health units (MISAU, 2010). Curative services are limited to testing and treatment for malaria, diagnosis and treatment of diarrhoea, antibiotics for acute respiratory infections in children, provision of first aid and detection of danger signs in children, adults, and pregnant women. The policy states that the APEs should come from the community that they serve. One APE is recruited to serve a community of approximately 500 to 2,000 inhabitants (MISAU, 2010). Policy dictates the selection process is led by the community who are asked to pre-select four candidates (two male, two female) (MISAU, 2018) . These candidates are then submitted to a basic proof of writing, reading and arithmetic test and the results are then shared with community committees (MISAU, 2011). Recognising that having to sit a test for the position

may discriminate against women, who generally have a lower educational level, a degree of flexibility is encouraged here to encourage the participation of women (MISAU, 2018).

APEs are not formally employed, but sign an agreement as 'volunteers', which qualifies them to a monthly subsidy of 1200 meticais (approximately $20 USD) (which can be withheld for incomplete or delayed reports) and access to free healthcare at the local health centre (Ndima et al., 2015b). APEs do not qualify for direct payment as employees by the government, because the public service law stipulates a set of requirements including a minimum academic qualification of grade 10 for Technical Assistant and Auxiliary employees (Chilundo et al., 2015). This excludes APEs as the APE programme only requires minimal literacy and basic arithmetic competencies (Chilundo et al., 2015).

Mozambique currently ranks 120 on the gender development index (UNDP, 2014a). Despite a strong political commitment to gender equality, health indicators for women and girls in Mozambique show pervasive discrimination (Percival et al., 2018). The maternal mortality ratio in the country stands at 490 per 100,000 live births (UNDP, 2014a) and between 1990 and 2010, women aged 25–29 experienced the largest increase in mortality with a 207% increase (IHME, 2017). Women have also been shown to have limited autonomy over their maternal health decisions and may be prevented from leaving the house to access care (Percival et al., 2018, Mboane and Bhatta, 2015, David et al., 2014). Increasing the proportion of female APEs may help make gains in addressing access barriers for women as they can identify and reach women within their homes.

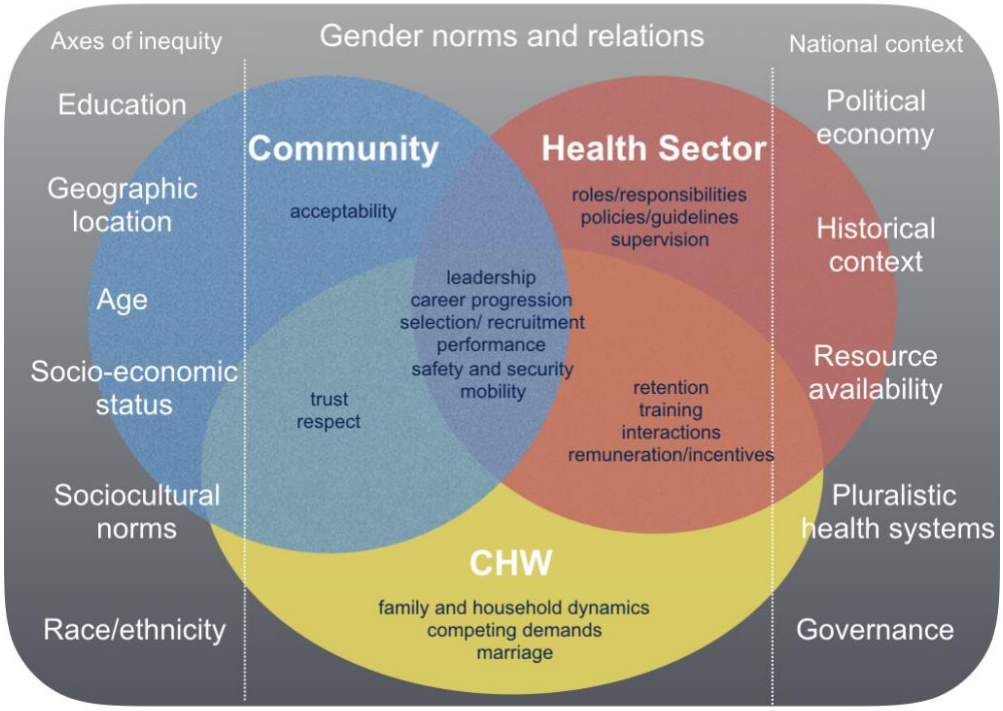
Mozambique also sees a disparity in labour force participation between males (75.8%) and females (26.3%) (UNDP, 2014b), which is reflected in the sex breakdown of APEs. As of December 2018 there were 1,453 females to 3,334 males serving as APEs (MISAU, 2018). This is despite targets set by the National APEs Coordination office for a greater number of females in the role. In the 2011 Operational guidelines for the APE programme the following guidance is stated "*the selection of women should be encouraged. 60% of the candidates must be women, due to their importance in education, and health care in the community*." (MISAU, 2011). It is also perceived that women have a greater cultural ability to deal with maternal and child health issues (MISAU, 2018) and that the preponderance of male APEs may deter

women from seeking care for newborns, as within the Mozambican context men are excluded from care after birth (Chilundo et al., 2015). Thus, the unbalanced ratio of male to female APEs requires attention in terms of their ability to access key target groups and from a human resources equity perspective.

Despite the stated intention to increase the numbers of female APEs there are few available studies that explore the reasons behind this persistent gender imbalance. One of the main reasons as cited in the unpublished 2018 strategy document is the low level of schooling among the female population (MISAU, 2018). A recent study with national level key informants also highlighted men's relatively higher literacy rates and community selection processes favouring young men because they feel that men are more deserving of paid work and the opportunity for advancement (Chilundo et al., 2015).

This study was nested within the REACHOUT consortium and the aim was to explore how recruitment policies and processes play out for male and female APEs and how gender norms, roles and relations shape the APE experience, in order to suggest strategies to increase recruitment and retention of female APEs. A conceptual framework developed by Steege *et al.* (Steege et al., 2018b) (figure 5.1) maps out the areas where gender norms and relations can impact on CHW programmes across the levels of the individual, community and health system. We will explore the human resource related elements from this framework. This involves investigating health system and community dynamics due to their role in selection of candidates, as well as individual choices which shape decisions to join and remain in the role from a gendered standpoint.

Figure 5.1: Conceptual framework adapted from (Steege et al., 2018b)



5.4 Methods

Recruitment and data collection: Qualitative methods were selected to understand the reasons behind the gender imbalance and explore social and gender norms within communities. Qualitative methods also allow exploration of the processes of recruitment, retention and performance of CHWs which may involve complex social and political processes linking CHWs' experiences, values and desires, and relationships with beneficiaries and the institutions that recruit them (Maes and Kalofonos, 2013). Methods included face-to-face in-depth interviews (IDIs, n=31) and focus group discussions (FGDs, n=3) with a mix of APEs, APE supervisors, community leaders and a Ministry of Health representative (table 5.1). Participants were purposively selected to ensure representation based on geographical location, sex and job experience and are listed below in table 5.1.

Interviews were conducted in May-June 2017 in two convenience sampled districts within Maputo province that were part of the REACHOUT consortium study sites: Moamba and Manhiça. In contrast to the rest of the country, there are actually more females in the role than men in these study sites (Moamba - 9 male: 16 female; Manhiça - 10 male: 30 female).

However, it was not logistically possible to conduct this study in districts that are more representative of the wider gender dynamic in Mozambique. As this is a qualitative study, we will be careful not to generalise findings to the rest of the country. Further, it is still relevant to explore why there are more females in this part of the country and what their, and indeed their male counterparts, gendered experiences are within the role.

The districts are mainly rural, and terrain can be challenging to navigate. They have established revitalised APE programmes and similar epidemiological profiles, however their health network remains insufficient to meet the needs of the population (Give et al., 2015a). A key difference between the districts is that Moamba is inland bordering South Africa, whereas Manhiça, is sandy and coastal which brings differing terrain and livelihood opportunities for APEs and their communities. In Manhiça, residents are employed by the sugar and rice industry, as well as engaged in fishing and informal trade and migrant labour in South Africa (Munguambe et al 2016). In Moamba, which is served by a train line, residents are engaged in agriculture and informal trade and migrant labour in South Africa.

Figure 5.2: Map showing the study districts of Moamba and Manhiça, north of Maputo.

A female research assistant (CF), experienced in qualitative techniques was recruited to ensure a gender balanced research team in case of sensitive questions. She was trained in qualitative interviewing techniques (e.g. open-ended questions and probes), the research

objectives and using the topic guides. Most interviews were conducted in Portuguese by CF. Interviews with male community leaders were conducted in the local language (Xi-Changana) by experienced qualitative researchers, SZ and CG, who were also trained.

Interview topic guides (appendix 3) explored the gendered norms, roles and relations within the community that impact on health system processes of recruitment, retention and training of APEs, and the gendered experiences of APEs across the individual, community and health system levels. The IDI interview topic guides were piloted in the field and refined. Interviews were conducted at health posts and district health centres. These were scheduled in private spaces to avoid any distraction and to ensure confidentiality of respondents. They were scheduled at a time convenient to the respondents and were recorded using digital Dictaphone devices.

Table 5.1: Qualitative interviews by participant type and district

Participants	**IDI**		**FGD**	
Ministry of Health Official	1x Male			
District level	**Moamba**	**Manhiça**	**Moamba**	**Manhiça**
APE	3x Male 4x Female	3x Male 4x Female	1 x mixed sex* (6 participants)	1x Male (8 participants) 1x Female (8 participants)
APE Supervisor	1x Male 2x Female	1x Male 2x Female		
District Supervisor**	1x Male	1 x Male		
Community leaders	3x Male 1x Female	3x Male 1x Female		
Total:	31		3	

*Male and Female APE FGD merged due to limited numbers

** In text quotes are labelled as 'supervisor' to adhere to confidentiality.

Analysis: The recordings were transcribed verbatim and translated into English. Back translation from English into Portuguese was conducted in a small sample of transcripts to assure accuracy of the translation.

Transcripts were read and reread to identify emergent themes. A coding framework was developed in accordance with thematic analysis (Ritchie and Spencer, 1994a, Nowell et al., 2017) (appendix 6). An inductive approach was primarily used but some *a priori* themes were informed by the Steege *et al.* conceptual framework and included domains around training, recruitment and selection processes. Transcripts were uploaded to the software NVivo 11, where they were coded. In order to improve trustworthiness, data from individual interviews and focus group discussions, were compared in order to triangulate the findings (Patton, 1990).

Ethical considerations: Written informed consent was obtained from all participants. Ethical approval was obtained from Liverpool School of Tropical Medicine no. 16-022 and the Institute of Bioethics in Health, Faculty of Medicine/Central Hospital of Maputo no. CIBS FM&HCM/45/2014.

5.5 Results

Results speak to both the gendered challenges of recruitment into the APE programme, including selection processes and training, as well as the gendered experiences of being an APE once through the recruitment processes, which relate to retention. Our results are presented in these two stages and according to relevant themes that relate to human resource management within the framework (figure 5.1). This allows us to uncover the barriers that may be preventing women from entering and remaining in the programme.

5.5.1 Experiences of recruitment

5.5.1.1 Recruitment motivations

APE respondents reported an intrinsic motivation for joining the APE programme, to help people in their community, due to limited services available in rural communities, or as a way

to serve the country. This was common across both districts and both sexes. Other participants cited extrinsic reasons for joining the APE programme: because they were selected by community; wanting to go on to become a nurse, or because they were not accepted into formal health positions. Some spoke of the lack of employment opportunities and suggest people joined '*to have an occupation so that they don´t remain without doing anything*' or to hold a position of responsibility. However, supervisors articulated a financial motive for many people to join the programme:

> *From my point of view, I think in the early days, people want to be APEs to help. Even, to help others in those times, but nowadays, in the present moment, I think they want to be APE, I think it's more to get something like money, to work.*
> Supervisor IDI Manhiça, female

5.5.1.2 Recruitment first stage: Selection process

Literacy requirements may not only discriminate against female candidates, but also those whose education was affected by the civil war and could not reach the required educational level, however there may be flexibility here as one male APE was serving despite not finishing his education.

The selection process was described by all groups of respondents to be led by the community leaders. It was also stressed that the scores are judged alongside the personality of the candidate and who will be best suited to serve the community. With regards to selection by sex, participants suggest that there are equal opportunities for both male and females to be selected and district supervisors spoke of the emphasis of gender balance in the recruitment and selection of APEs. As aforementioned, in the study sites there more females in the role than men. This is in part due to the prioritisation of women as denoted in the selection policy, as well as employment opportunities for men in South Africa, which meant women were left alone in communities and had more autonomy over their own livelihood choices.

> *…the [Southern] provinces of Gaza, Maputo and Inhambane have a greater number of women. This is because… there are many women with husbands working in South*

Africa and as a way to take care of the family, women have to find something to do. This is the difference that we have, looking at the Central zone and North the woman has to take care of the house, the woman has little time, she cannot do anything, she is dependent on the man, the man is the one who determines if she is going to work… [in the South] …they adhere because their husbands are not there, they are out of the country working in the mines...

KII MoH, male

Additionally, gender roles that ascribe domestic duties and caring roles to females and outside labour to males also seemed to play a role in selection and influenced community perceptions.

It's just because women have more time. Looking at women's side you will see that they are who have this ability to take care of us, and men have more activities to do and must not be more related to this work.

Supervisor IDI Manhiça, male

Q: By comparing man and woman, who do you think would best serve the community in this health issue?

R: I think women are the most helpful. There are a few helpful men, but the big problem is that some people take the job and, without giving any information, leave to South Africa, leaving the community to their fate. That's one of the reasons that made our choice fall on a woman.

Community Leader IDI Manhiça, male

It is also stated in the operational guidelines that no form of favouring the candidates should be considered or accepted, (e.g. religion, party, politician, family) (MISAU, 2011). Nevertheless, examples of nepotistic selection were also given by respondents with regard to the recruitment of men which was associated to their perceived need for income generating opportunities due to the provider role, linked to masculine norms.

A: …I worked with the father of this young man, he was my servant [health position] and so when this request came, I did not go far, I came to get him right here.
Community Leader IDI Manhiça, male

…during the selection they have not noticed the [female] side of being more open, more welcoming. They have noticed the friendship side, family, it's much more a chance I give my nephew… to be APE, since he does not work, being a man…
Supervisor IDI Moamba, female

5.5.1.3 Recruitment second stage: Training programme

The four-month training which must be completed to become an APE in Mozambique is offered in a central location and APEs who live far away may only return home at weekends, if at all. This residential style training creates difficulties for some candidates due to their gendered roles at home. Due to a gendered 'provider' role, male APEs spoke of the challenges of providing food for their families at home. During training they only have access to the allowance provided by the health system as they are unable to engage in any additional income generating activities that they could at home:

If I have to leave here to be in another place, for four months, here at home what is going to be eaten? For example, because now where I am, I only have 10 kg [of rice], I am trying to at least increase again that 10kg, or this woman [wife at home] is going to haunt you. How is it possible to work to increase that food with that little allowance they gave us?
APE FGD Manhiça, male

Experiences of training were also influenced by national context as shown to the right of the conceptual framework (figure 5.1). For one cohort of APEs the difficulty of providing food for their family back home during training was compounded by famine at the time of training. Although they faced difficulties during the training period, they spoke with defiance:

In the family, when I leave, I´m the male there (laughter) so no one will be [disciplining] the children for four months. I do not know how I made it staying here because [home] was lacking food…when we were trained it was time of starvation…We also had problems of lack of food here, if I had a [lunchbox] here sometimes I would carry it to a child at home, but here we had difficulties. But we faced them, we are here, we win. We are winners.

APE, Male FGD Moamba

Difficulties facing women who train away from home were linked to marital status. In the cases of single mothers, who were also serving a 'provider' role, the stress of not being at home to support children impacted their training:

For me it was difficult because I am a mother, I am a father, I have a son who is 7 years old… I even asked my sister to go stay with my son, sometimes the night at [8pm] she sent me a [message] then I seek airtime to call, she just wanted to tell me that at home has no oil, no sugar, has nothing, I was not well trained because it was not always easy.

APE Female FGD, Moamba

This also highlights the reliance on family members that was expressed by APEs of both genders; by women with regards to helping with childcare, and by men with regards to helping with farming – emphasising the gendered divisions of labour common to the study sites.

Patriarchal norms which dictate women are not the primary decision-makers in the home meant married women had to seek their husband's consent and support over their livelihood opportunities. Barriers existed for some women to obtain consent to train away from home, but also to work out of the home, giving up time dedicated to household duties for a perceived lack of financial contribution to the household.

Q: Do their husbands agree to let their wives go to the training for four months?

R: That, indeed, happened. The APEs that were in the training with this our APE, there were three ladies whose husbands did not like and so the [husbands] suspended them from the training. However, when we distributed the cattle offered by PATHFINDER to the other APEs, their husbands complained.

Q: What are the motives for men who have suspended their wives from APE training, other than what they have already mentioned related to lack of salary?

R: The main reason was related to home activities. They did not see the reason for leaving their homes for an activity that has no benefits.

Community Leader IDI Manhiça, male

In these instances, supervisors were recruited to speak to husbands to gain their support. Yet, it was perceived to be common barrier as one male APE suggested health system staff should meet with husbands of married female candidates and only recruit those who had the support of their husbands from the outset, to avoid investing in training women who may later quit if '*the husband starts to make problems*'.

Despite the issues raised by participants with residential training, participants still felt they wanted to learn together, with their fellow APEs outside of their home villages. The reasons for this were a communal sense of learning, learning from one another, and a sense of pride gained from going away and returning ready to serve your community. Men placed emphasis on the benefits of collective learning and being in an environment with people with a higher level of knowledge. For women however, the benefits also came of being away from the distractions of home life, allowing for focus and punctuality, which speaks to their double burden of household and APE work.

5.5.2 Experiences shaping retention of APEs

5.5.2.1 Remuneration

Gender norms impact on retention to some degree. Although it was reported both men and women leave due to low subsidies, this appeared to me more pronounced among men, and shaped by husbands in the cases of married women.

Q: In your experience, why do people usually leave?

R: Money problems.

Q: Is it money for both men and women?

R: …It is money because other women sometimes have a husband and the husband lets her go to work and at the end of the month there is nothing, before we were eight months without receiving the subsidy and the husband becomes demoralised, it is preferable to leave because… they do not give you anything

APE IDI Moamba, female

It was reported that the male role as the 'breadwinner' meant that men would often leave to find better-paid work and were more disheartened about the subsidies being low or delayed.

Q: You said men usually give up, what are the reasons men quit?

R: Because men are the head of the family and all responsibilities rely on them, such as providing money for children to go to school, food and many other things. So, the reasons for many to quit taking in account the amount we receive as subsidy while we have much work to do as APE.

APE IDI Moamba, male

Lack of income was a central factor for many of the APEs both male and female, as well as a leading cause of attrition, it was the source of difficulty and stress for many. Nonetheless, in most cases a sense of obligation to the community, and limited livelihood opportunities within the rural settings kept many working in the role despite feeling the work load did not equate to the amount of subsidy provided.

I have worked with many projects but never ceased to be an APE and I will not leave, so far, I want to continue, even without money, there is no way. A person's life is not bought.

APE IDI Manhiça, female

While this sentiment was expressed by APEs of both sexes, female participants in Manhiça spoke passionately about feeling exploited by the health system. Describing how there is an

influx of work from multiple NGOs, but the monthly subsidy does not change to reflect this. The APEs feel they are working to support their country but, yet the country is not speaking up for their rights, describing themselves as '*slaves of the ministry*'.

> *More and more NGOs coming with more work but no money for that. The first organisation that came in said will give 1200 [meticais to] APES, and these new organisations that are coming in now, because they are coming in, are exploiting us, but we will not stop working... We are going to work because we are in our country, in the community, what we are doing is not only helping the community alone, we are helping the whole country… but the country is not giving us priority, it does not value our work… This NGO asks the State, we want APE, they should say 'we have APE, these APEs are receiving the value of another NGO if you also want to work with APE you also have to give something!' Does not mean anything working for five NGOs while I'm only receiving salary from one NGO*.
>
> APE IDI Manhiça, female

> *And if the ministry cannot pay us because our level is so low it should train us more, increase our training, because we have the capacity to learn more… We are still available to receive more studies, to continue helping the population, but we have to see the subsidy because they are already exploiting us, we are slaves of the ministry, because even servants receive more than we do, but we are doing a lot of work…*
>
> APE FGD Manhiça, female

5.5.2.2 Career progression and training opportunities

Alongside minimal subsidies, the minimal opportunities for new training and career progression are cited as a contributing factor to their sentiment, as illustrated in the above quote. Speaking to opportunities for female empowerment and further education they felt it would be inspiring for communities to see an APE go on to university – reflecting how the health system could not only help meet educational goals for women but also aspirations for this cadre to progress into the formal labour market.

We hope they will help us, maybe they may give us scholarship so we can increase our level. Don´t you one day want an APE like me, to graduate from university? Wouldn't you guys like that? Hearing that an APE, a lady was an APE, now she has done a degree.
APE FGD Manhiça, female

Opportunities for training and education are also linked with policies for remuneration. The relatively low education level of this cadre mean they do not qualify for formal paid jobs within the public sector. Currently, the level of education held by APEs fits the role being 'voluntary'. However, this voluntary status also brings with it its own challenges in juggling APE work with paid opportunities. The voluntary status of the APE role allows for concurrent paid employment, however in reality the requirements of the APE work limits opportunities to earn additional income. APEs felt continuously on call and have to attend to patients and their supervisors on demand.

…the APE accepted to help the community did not accept to be exploited, now the APE is being exploited. They are violating the rights of the APEs… they made a doctrine, it says the APE has no right to receive much subsidy because we have the right to go to the farm, do other jobs… but when the supervisor calls to say 'I am coming to your house, I come to do supervision', that day even if you have another [job] you cannot leave the house, have to wait for the supervisor to come to do supervision then that day that you were not in that work that sustains you is missing... We are working and we are happy with our work, but our concern is only subsidy…
APE IDI Manhiça, female

Balancing time between APE work and additional income generating work also had a gendered element and posed particular problems for male APEs. They felt if they took another job in the daytime, they would not have time for APE work as it was not deemed appropriate for them to attend to families at night and would be accused of ulterior motives.

Subsidy demoralises us a lot, other APEs eventually get another job, so the boss who employs me, will not accept the rest of the time to work as an APE. For example, you can say that you enter here [at] 6 hours, it will leave 18 hours, so already for the

work of APE I will not do anything because I will leave 18, I cannot do home visits at night, because they will say you are no longer working in health, you want our women (laughs) …We are not well with will, but we are working.
APE FGD Moamba

This demonstrates how policies surrounding remuneration can impact men and women differently on the ground. In this case, the need for additional income restricts men's ability to carry out APE work effectively due to socio-cultural norms that limit their ability to conduct night visits – which may impact on their retention.

5.5.2.3 Livelihood choices and opportunities

It was reported that women often leave if they get married and follow their husbands to their home villages. Supervisors expressed that this can be a problem for the health system once an investment in training has been made, but the woman is no longer able to work.

A young, female participant articulated a romanticised rationale for quitting APE role to start a family and spoke of her aspirations to be able to start a family and home life and provide for them. This highlights the importance of understanding APEs as individuals and not viewing them as homogenised group. This is particularly relevant in the case of female CHWs where the dominant narrative may be of oppression. Instead, individual circumstances come together to shape individual choices.

Q: Do you think that one of the reasons men tell women to quit is because they do not want them to have their own money, their financial independence?
R: No, that's not correct. For example, I am a girl, I am an APE, I am dating a boy from Gaza province, he wants to marry me, well, I can say I have reasons to accept him and quit APE work, but this decision is not about money, it's because I love him, I want to have my own home and family, as well as conditions to get food and educate my child.
APE FGD Moamba, female

Still, it is not always the woman's choice to quit APE work. Patriarchal norms that dictate that men are the primary decision-makers in the household, were also reported to impact on married women's ability to remain in the role. In this case, husbands' disapproval was

interlinked to APE programme policies – both in terms of the limited income that the role of APE brings in, and in the lack of a dedicated health post – which was also cited by many community leaders and APEs as being something that would benefit their work. One male participant described a situation where women who use their home as a place of work could lead to disagreements at home, even leading to domestic violence.

> *…Women give up because the husband has a decision at home, to this day there is this, there is a husband who has a decision at home. 'You should stay here, instead of going to the farm, leave these people, or even leave work, leave these activities here, I say stay here at home.' Others drink, smoke, these husbands are stubborn, for example, if I come home, I drank, I smoked and I find you- my wife - and there is someone having a test there, I can make you stop [treating them] there, prepare a meal for me at the table…as I am the one who decides here at home… she will quit (the APE) because she wants the save her marriage. He even announces this, 'you know nothing, your income adds nothing here at home.' She ends up giving up because no woman will like to always receive beating, punches, slaps and know that I am not gaining anything*.
>
> APE FGD Moamba, male

The ability to negotiate alternative outside livelihood opportunities is shaped by gender, age marital status and geographic position. Younger men and women were viewed as being less inclined to stay in the position and more likely to look for job opportunities outside of their communities. Though, it was articulated to be more pronounced among young men and associated with their gendered provider role.

> *For example, this young man here [an example APE man] receives 1200 [meticais], will he build real home with 1200? His girlfriend wants artificial hair, but this 1200 is not enough, so, if this APE gets a good job, he will definitely leave APEs work. If someone tells him that there's a job opportunity in Inhambane province where he'll get paid five or seven thousand, he will definitely leave APEs work. On the other hand, for an old man it's different because there are few opportunities due to the age, so old men are likely to remain in their APE work. It is difficult for any old man to quit. He can remain in his community.*

APE FGD Moamba, male

Well in my group there was a colleague after training worked a few months but ended up giving up, travelled to South Africa but she was not married, even was a young woman in her 20s, so I do not know what was her influence, eventually she abandoned and on her return she wanted to get involved again but she had already been replaced by another colleague.

APE IDI Manhiça, male

These examples highlight the need for an intersectional lens when thinking through gender issues, as multiple factors interplay with gender to create unique situations that mean one person may have the ability, or desire for higher income that causes their attrition.

5.6 Discussion

Supporting women's entry into, and experiences within, the APE workforce is vital to increasing the proportion of women in the cadre. Both districts in our study area had greater numbers of women working as APEs, which is at odds to what is seen in the country as a whole and particularly the dynamic in the north of the country. This is an obvious limitation however, exploring their experiences helps to guide suggestions for increasing the proportion of women and encouraging the retention of men. It further serves to highlight that policies need to be context specific and how policies play out varies within countries, not just between countries. Our findings demonstrate that APEs are not a homogeneous group and gender norms and relations, as well as age, geographical location and marital status all converge to influence both recruitment and retention of APEs, with the latter clearly shaped by their experiences in the role. The conceptual framework (figure 5.1) used to frame our results highlights the areas in which gender norms can influence the health systems interactions both with the individual APE (associated with marriage, competing demands and family and intrahousehold dynamics as shown in the framework and our findings); and community around recruitment (including selection processes and training) retention (including remuneration, career progression and livelihood opportunities). These factors were also influenced by other axes of inequity (shown to the left of the conceptual framework) – such

as age and geographic location which were important factors shaping APEs' experiences and the national context (shown to the right of the conceptual framework) which included the historical impact of war, and resource availability during times of famine. We present recommendations for policy based on our findings.

5.6.1 Priority areas to support recruitment of women

Although in the districts studied there were more women serving as APEs than men, our research found that recruitment opportunities for APEs are shaped by gendered norms and may limit women's entry into the programme. This is common within sub-Saharan Africa, as social norms dictate that household chores and child-rearing be predominantly carried out by women and therefore limit women's economic opportunities and ability to participate in the workplace (Bank, 2011, Donner et al., 2017). Gendered intra-household bargaining and male decision-making power in low-and middle-income countries has been well documented with regard to limiting women's autonomy over health seeking behaviour (Richards et al., 2013). In Mozambique, rural women have also been shown to be heavily influenced by their partner's decision-making power over family planning (Mboane and Bhatta, 2015). CHWs are one approach to reduce gender constraints in accessing services and reducing inequities in provision of healthcare (McCollum et al., 2016a). Our research extends this literature to show how gendered intra household bargaining also shapes APEs own experiences and their livelihood negotiations – in these cases gendered relations impact both women's access to healthcare, and women's choices in delivering healthcare.

Married women in particular, may have less power over their decision to become an APE. Women's ability to influence and make decisions within their households needs to be considered from a human resource perspective. Their often-limited autonomy in this setting led to difficulties in the recruitment of female APEs due to the four-month residential training programme. To support the training of this cadre and ensure that men and women are not limited by gender norms that prevent them from staying away from family we suggest that residential training be accompanied by childcare provision and a formal salary, with an option to complete the training in shorter modules to allow for breaks at home. Modular learning

would also support opportunities for further income generation, which limited men in particular.

Community leaders were co-opted to help talk to the husbands to make them more accepting of the role and gain permission for women to train and work as an APE. In this way the values and ideals of the supervisors are likely to influence this discussion. It is therefore necessary to have a training module for supervisors in how to approach discussions that have important implications for women's intra-household bargaining power. Further, work within communities with the help of community leaders to sensitise people to the role and training process of the APE. This may help to gain husbands' acceptance but importantly also to transform harmful attitudes within the community that see men threatened by women's earning power, or employment status and support female autonomy in decisions regarding their work and livelihoods. These types of strategies should also be embedded within wider participatory gender analysis that enables female APEs to assess and decide how to pursue their strategic interests (Tolhurst et al., 2008).

Experiences of the training programme were also shaped by wider factors such as the political context and resource availability, as demonstrated by the discussion of famine (figure 5.1). For men and single mothers who take on a 'breadwinning' role for their families, this pressure to provide caused particular stresses during training and may also be a cause for young men's reportedly higher rates of attrition as they leave for higher paid positions. Further, nepotism in selection, which has also been shown in the Democratic Republic of the Congo (Raven et al., 2015b), was linked to giving income generating opportunities to young men and has implications on sustainability of the programme when they leave for better paid opportunities. As community leaders were reported to lead the selection process it would be beneficial to conduct thorough training with them around the roles and responsibilities of APEs; aims of the programme; and the importance of clear accountability mechanisms at the community level. This will help to ensure all community members are consulted on the selection of candidates, open up more opportunities for female candidates and avoid investment in candidates who are not committed to the role.

5.6.2 Priority areas to support retention of APEs

Given APEs essential role in the health care sector, there is a duty to ensure that they are appropriately and adequately supported by the health sector once through the recruitment process. Our research revealed the provision of health posts to work out of is a key change that would help make the daily lives of APEs easier. Further this would benefit women who are forced to see clients out of their homes without their husbands' support. Underpinning this though, was a call for regular and adequate subsidies and career progression opportunities.

There was a clear sentiment of APEs who felt conflicted - happy in their roles but also struggling to support their families within the realities of the working environment which see increasing tasks and delayed subsidies. In particular, female APEs spoke of feeling undervalued and unappreciated. Although there is no distinction in policy between male and females with regard remuneration, the experiences of women may have been influenced by their gendered positions which afford them relatively limited options for alternative sources of employment when compared with men, who were reported to travel to South Africa for mining opportunities. Some younger female APEs spoke of their choices in choosing domestic work over APE work, but others felt limited in their choices due to their educational level and their location. Nevertheless, they remain committed to their communities via a moral obligation to care. Strachan *et al.* also report that retention of APEs in Mozambique is influenced by a sense of duty to their community (Strachan et al., 2015) . This has also been demonstrated in the literature from Ethiopia, Malawi and Ghana where volunteer CHWs care for their communities at their own expense, indicating a strong moral imperative to care (Maes, 2015a, Hampshire et al., 2017).

Similar qualitative work of APEs in Mozambique has corroborated our findings that becoming an APE is influenced in complex ways by gender norms and that APEs feel undervalued, and underpaid by the government (Maes and Kalofonos, 2013, Kane et al., 2016a). Studies in Zimbabwe, Uganda and Mozambique have also linked low and irregular pay and increasing work-loads to poor retention and motivation among CHWs (Edwards et al., 2015, Raven et al., 2015b). Further, in Ghana, the expectation that the CHW role should fit in with income-

generating activities was also not met – this left CHWs struggling to support their families – importantly, the study also notes exploring this with a gender focus is a key gap to address (Raven et al., 2015b).

The call for greater subsidies and formal employment rights from the APEs should be heeded. Working at the lower end of the health system hierarchy APEs are vulnerable to poverty and are overcoming damaging past events involving famine and conflict. The provision of fair wages helps progress towards Sustainable Development Goal eight for decent work and economic growth. Further, payment helps APEs to secure their livelihoods and contribute to their empowerment, which it has been argued, is an essential prelude to CHWs being committed to, and effective in, enacting their roles as health promoters and agents of change (Kane et al., 2016a). Formally paying both male and female APEs may also pay dividends to the broader health agenda and contribute to the economic development of the country - maternal income has been shown to lead to improved child health, one of the aims of the APE programme (Pfeiffer et al., 2001, Richards et al., 2013).

By labelling the work as voluntary, harmful gender norms may be reinforced as men quit for higher paid positions, but women remain in the role suggesting their labour is cheaper and less valuable - supporting the notion that women's contribution to the household is ‘supplementary’ to that of the male ‘breadwinner’. Further, it reinforces the perception that women have domestic duties they need to work around (Steege et al., 2018b) and bolsters the ‘double burden’ women face of juggling paid work with family responsibilities as expressed by our respondents.

Bargaining positions are also influenced by an individual's perceived contribution to household livelihoods (Tolhurst et al., 2008). This was shown to be the case here, where husbands were reticent to let their wives continue with APE work due to the limited contribution to household economy, which was reported to led to intimate partner violence. Violence can be considered one of the ‘most graphic expressions of unequal household power relations’ (Duggan, 2011). It limits women’s autonomy and their ability to make decisions - in this case with regard to their livelihoods. Outside earnings therefore provide women with

psychological and practical leverage and increase their decision-making power by increasing their perceived contribution to households (Sen, 1990).

Developing further training opportunities and allocating sponsored places in higher education schemes for those eligible may be one way to further the transformation of this cadre and contribute to the economy and health workforce. A recent review of government reports by Percival *et al*. found no evidence that the Ministry of Health prioritised gender equity in its overall human resource strategy and that the promotion of women was not part of the recruitment process for the APE programme (Percival et al., 2018). This highlights a key gap to address within the APE policy however, the capacity of the health sector to absorb human resources trained in health will need to be considered and alternative pathways under the community health umbrella should also be included. In a study by Chilundo *et al*. NGO respondents suggested that APEs could be admitted under another category requiring only Grade seven level qualification, as in the case of agricultural extension workers (Chilundo et al., 2015). Our research furthers this by demonstrating that APEs themselves have the desire to further their education in order to make them eligible for formal employment, better their futures and receive the recognition from the health system they felt they were owed.

5.6.3 Data to promote gender and intersectional analysis

Research on health systems often focuses on social determinants, such as gender, as isolated factors. Nevertheless, there is a need to investigate and understand how different axes of power intersect to create multiple identities (Connell, 2012) - as demonstrated by our results in relation to intersections of age, marital status and gender and geographic location. For example, younger, unmarried APEs were reported to seek opportunities for employment in neighbouring South Africa limiting their involvement in the APE programme. This highlights a need for data on APEs disaggregated by various axes of inequity to help make informed decisions in policy making. Formalising the employment of APEs and providing a clear career structure may encourage the younger generation to join, providing work opportunities in areas where they may be lacking. This may also improve the sustainability of the programme and eventually increasing the number of qualified health workers in the country. Thus, demonstrating links between factors that influence both recruitment and retention. This may

also particularly benefit women, who may have more limited education opportunities in Mozambique, to progress their education and help to transform broader societal gender norms, as voiced by our female participants.

5.6.4 Study limitations

Our study has some limitations that need to be considered, firstly whilst we set out to explore the reasons behind the low levels of female participation in the APE programme, in Maputo province the ratio of women was reported to be much higher than is seen in the North and Central zones of the country. As this is qualitative work, our findings cannot be generalised to the rest of the country but provide important insights into some of the considerations in recruitment and retention of male and female APEs. Secondly, it would have been beneficial to hear not just from current APEs but from those who had left the programme to explore their lived experiences and the reasons behind their attrition. Another potential limitation was the need to combine the male and female APEs into one FGD due to limited numbers of APEs in Moamba. We feared this may have created some gendered power dynamics however, the APEs presented themselves as a team and spoke openly about personal and community gender issues and we elicited some rich responses this way. Finally, it is important to consider our position as researchers and the impact that our position as outsiders of the community, living in Maputo city and beyond, may have had on respondents. Despite this, participants generally seemed open and willing to talk to us and wanted to share their stories to enact change.

5.7 Conclusion

Gender norms, roles and relations, as well as age, geographical location and marital status all converge to influence both the recruitment and retention of APEs in within the political and economic context. Further gender and intersectional analyses need to be conducted to support APE policy making at the national level. This will help bolster recruitment of women into the role in line with government targets, as well as support the unique needs of APEs within the role - reducing attrition rates and improving the sustainability of the programme. Critically policy change in this area must be underpinned by efforts to ensure women are not restricted by current patriarchal norms within communities, as well as fair remuneration for

the cadre. This will contribute to the empowerment of this cadre and redress women's subordinate position in household decision-making - ensuring they have equal opportunities to enter the APE programme if they so wish.

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Chapter 6: Results – Ethiopia

6.1 Chapter overview

This chapter aims to answer the research question: *What are the gendered experiences, and unintended consequences of mobile technology for Health Extension Workers in Sidama Zone, Ethiopia?* It provides the rationale for, and methodological approach to the empirical research before it introduces a socio-ecological model to frame the results which are assessed against the WHO's gender assessment scale. Results are presented via the experiences of the HEWs at the interface of the health system and their communities. It concludes with how this study adds to the existing literature on the topic and provides recommendations.

It has been published in the Journal of Public Health and I have included it in full (Steege et al., 2018c). There is therefore some overlap with the methodology covered in chapter three, though I have tried to keep this to a minimum. Contributions of co-authors are clarified on the following page.

"The phone is my boss and my helper" – A gender analysis of an mHealth intervention with Health Extension Workers in Southern Ethiopia

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MT: Conceptualisation, Supervision, Writing – editing

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6.2 Abstract

There is considerable optimism in mHealth's potential to overcome health system deficiencies, yet gender inequalities can weaken attempts to scale-up mHealth initiatives. We report on the gendered experiences of an mHealth intervention, in Southern Ethiopia, realised by the all-female cadre of Health Extension Workers (HEWs).

Following the introduction of the mHealth intervention, in-depth interviews (n=19) and focus group discussions (n=8) with HEWs, supervisors and community leaders were undertaken to understand whether mHealth technology acted as an empowering tool for HEWs. Data was analysed iteratively using thematic analysis informed by a socio-ecological model, then assessed against the World Health Organisation's gender responsive assessment scale.

HEWs reported experiencing improved status after the intervention and respect from community members and reported being smartphone gatekeepers in their households. HEWs working alone at health posts felt smartphones provided additional support. Conversely, smartphones introduced new power dynamics between HEWs, impacting the distribution of labour. There were also negative cost implications for the HEWs, which warrant further exploration.

MHealth has the potential to improve community health service delivery and the experiences of HEWs who deliver it. The introduction of this technology requires further exploration to ensure that new gender and power relations transform, rather than disadvantage, women.

6.3 Introduction

Mobile health (mHealth) provides health services and information via mobile technologies, including mobile phones (Källander et al., 2013). There is considerable optimism in mHealth's potential to overcome health systems' deficiencies to ensure access to safe, effective and affordable health services (Bloom et al., 2017). This has led to an 'explosion of mHealth activities' (West, 2015) and 'large-scale adoption and deployment of mobile phones' (Agarwal et al., 2015) by Community Health Worker (CHW) programmes. MHealth innovation in relation to CHWs, on which low- and middle-income countries (LMICs) disproportionately depend, has been reported to be 'particularly promising' (Hampshire et al., 2017). CHWs' use of mHealth has the potential to improve their motivation; decision-making; training; adherence to guidelines; data entry and quality; planning and efficiency; and communication and health promotion; while also enhancing coverage and timeliness of services and reducing costs (Bloom et al., 2017, Hampshire et al., 2017, Källander et al., 2013, Mehl and Labrique, 2014, Thondoo et al., 2015, Zurovac et al., 2012). MHealth also allows the monitoring and tracking of health indicators in real time, providing crucial insights to policy makers and enabling CHWs to better serve communities (Shekar and Otto, 2012).

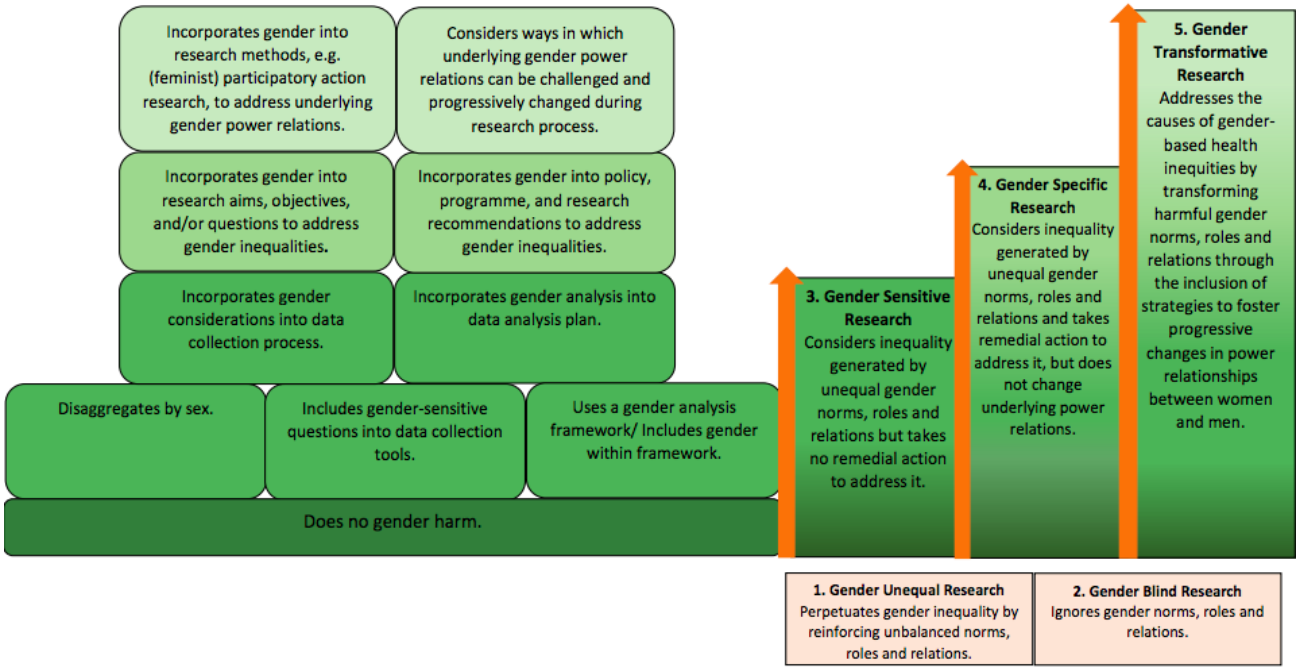
Research on CHWs' use of mHealth focuses on the formal, work-related aspects, such as health outcomes and/or health system benefits. Recent systematic reviews (Agarwal et al., 2015, Braun et al., 2013, Källander et al., 2013, White et al., 2016) note CHWs acceptance of mHealth's potential to enhance health outcomes and health systems and benefit CHWs. Adoption, however, is hindered by infrastructural limitations (e.g. electricity and internet), security issues and a lack of sustainability given that most interventions are pilots. With a few exceptions (Jennings and Gagliardi, 2013a, Hampshire et al., 2017), CHWs' perceptions of mHealth, and their positionality as gendered subjects and workers is overlooked. As Lupton (2014) has argued, examination of how CHWs have used mHealth has 'received almost no attention from critical scholars'(Lupton, 2014).

Sustainable Development Goal five calls for '*the use of enabling technology, in particular ICTs [Information Communication Technologies], to promote the empowerment of women*' (UNDP, 2015). Aligned with this, pilot mHealth interventions provide women with greater access to

health care information and more autonomy in health decision-making. MHealth technologies for CHWs, an often-feminised and sometimes volunteer cadre, offer a unique opportunity to explore the potential for empowerment. CHWs are crucial lynchpins in LMICs' health systems, yet experience limited training, heavy workloads and undertake a range of service delivery tasks (Chib et al., 2015, Hampshire et al., 2017). Situated within broader socio-cultural and gendered contexts, they are burdened both by their workloads and by gendered roles and responsibilities to kin and communities (Saprii et al., 2015a, Steege et al., 2018b).

Gender inequalities can weaken attempts to scale-up mHealth and mHealth initiatives do not always lead to women's empowerment (Agarwal et al., 2015, Bloom et al., 2017, Jennings and Gagliardi, 2013a). Gender transformative initiatives that promote equality and transform gender norms are needed (Jennings and Gagliardi, 2013a). Several tools encourage a more gender transformative approach assessing gender norms and power relationships. This includes the World Health Organisation's (WHO) gender responsive assessment framework (WHO, 2011b), which helps position a project from gender blind to gender transformative by setting out basic criteria to be met in each category (see Figure 6.1). This framework identifies necessary milestones/actions for interventions seeking to achieve gender transformation.

Figure 6.1 WHO Gender Responsive Assessment Scale. From WHO (2011). Gender mainstreaming for health managers: A practical approach. Geneva.



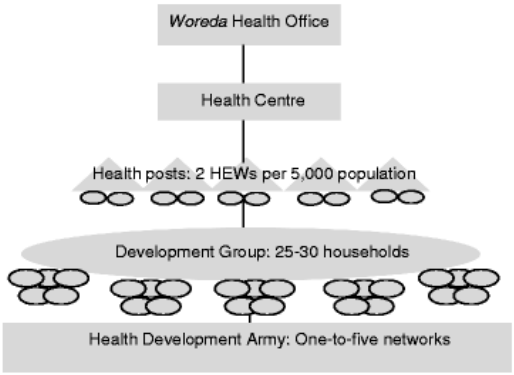
This study explores the impact of an mHealth pilot intervention, a smartphone-based digital health management information system (HMIS) (Dusabe-Richards et al., 2016), on Ethiopia's female HEWs. Framed by a socio-ecological model, and using the WHO's gender framework, it assesses whether technology acts as an empowering tool for HEWs and how the intended and unintended consequences influence gender and power dynamics.

6.4 Methods

In Ethiopia, the Health Extension Programme (HEP), initiated in 2004, is a free primary health care package in which 38,000 female HEWs offer 16 essential health packages (Kok et al., 2015c, Teklehaimanot and Teklehaimanot, 2013, Yassin et al., 2013). HEWs are salaried government employees who have completed at least grade ten. They are selected by their communities to complete one year of training in basic health service delivery. A health post serves a population of about 5,000 and is staffed by two HEWs accountable to the *kebele* (lowest administrative unit). HEWs are supported by female volunteers, known as the 'Health Development Army' (HDA) (Kok et al., 2015c) and supervised by health professionals

from health centres. Health centres in turn, are overseen by the *woreda* (district) health office (Figure 6.2).

Figure 6.2 Overview of HEWs' intermediary position between the community and health sector (Kok et al., 2015c).



In spite of low ICT access and usage compared with other African countries, the Ethiopian Federal Ministry of Health has embraced mHealth in its national strategic health plan (Ethiopian, 2014). Ethiopia prioritises maternal health services and calls for improved HEW performance on maternal health-related tasks (Kok et al., 2015c, Teklehaimanot and Teklehaimanot, 2013, Dynes et al., 2013).

The intervention

An mHealth intervention that focussed on the priority areas of TB and maternal health services (Dusabe-Richards et al., 2016) and linked to the Ethiopian Ministry of Health's mHealth strategic framework was conducted in Sidama zone, Southern Ethiopia, with a population of about 3.7 million. Our research, undertaken in six Primary Health Care Units across six districts, worked closely with and was realised by HEWs, their supervisors, health workers based at the catchment health centres and policy makers at *woreda* health office and zonal health department.

One smartphone, assigned to each health post, was shared between two HEWs, who used the phone to input data on expectant mothers and TB. The data was uploaded to the HMIS where it was instantly available to other levels of the health system. Reminder messages

prompted HEWs to follow-up on expectant mothers' due dates and sputum examination for TB symptomatic cases.

Ninety-seven smartphones and eight computers were distributed to HEWs, their supervisors, health centre staff and focal persons from district and zonal levels. Ongoing theoretical and practical training was conducted and a monthly airtime allowance of 100 birr (3.64 USD) was provided for the first five months. Subsequent top-ups were paid for by HEWs.

Ethics Statement: Ethics was approved by the Liverpool School of Tropical Medicine (16-022) and by the Ethiopian Ministry for Science and Technology in June 2016 and supported by the Regional Health Bureau. All participants gave written informed consent.

Data collection process:

Qualitative methods were used to generate rich insights into participants' experiences of the intervention (Hammarberg et al., 2016a). They included face-to-face semi-structured in-depth interviews (IDIs, n=19) and single sex focus group discussions (FGDs, n=8) with HEWs, supervisors and community leaders (Table 6.1).[10] Interview topic guides (appendix 4) explored the gendered elements of the intervention, ways in which the mobile phones helped or hindered HEWs' roles, how HEWs used the phones outside of work and the impact on their relationships. Analysis, informed by an adapted socio-ecological model, was designed to evaluate how the intervention impacted the interface position of the HEWs and to establish how the intervention fared along the WHO's gender transformative scale. Interviews were conducted in four districts purposively selected for variation in geographic location and performance.

[10] In the study districts, all HEWs are female and all community leaders male. Supervisors are predominantly male. Disaggregating by gender and district would breech confidentiality.

Table 6.1: Qualitative interviews conducted by participant and district

District **Participant**	**District 1**	**District 2**	**District 3**	**District 4**
HEW	2 x IDIs (Female) 1 x FGD (Female)	3 x IDIs (Female) 1 x FGD (Female) *	4 x IDIs (Female)	5 x IDIs (Female) 1 x FGD (Female)
HEW Supervisor	1x IDI (Female) 1 x IDI (Male)	1 x IDI (Male) 1 x FGD (Male)**	1 x IDI (Male) 1 x FGD (Male)	1 x IDI (Male) 1 x FGD (Male)
Community leaders	1 x FGD (Male)	1 x FGD (Male)	1 x FGD (Male)	1 x FGD (Male)

*merged with participants from District 3 due to geographical proximity and convenience of participants

**merged with participants from District 4 due to geographical proximity and convenience of participants

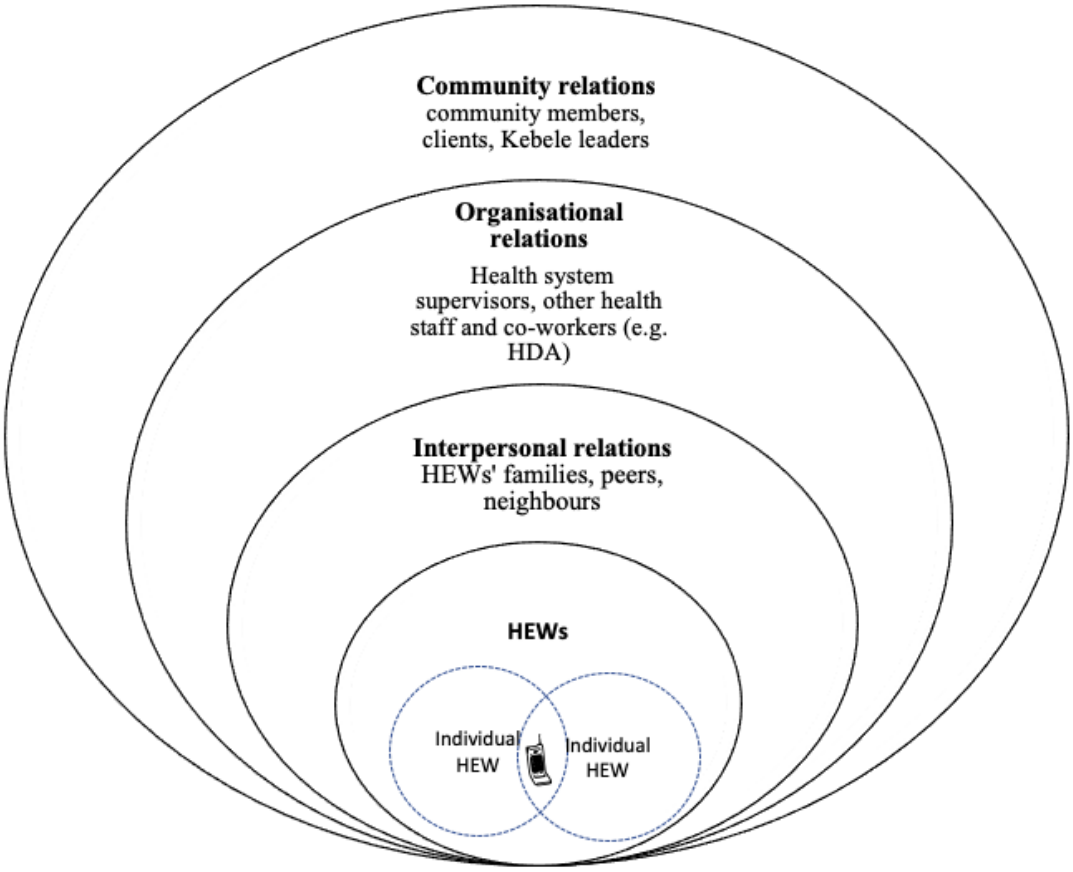
In interviews, a local trained female research assistant, fluent in Sidamigna (the local dialect), ensured HEWs felt comfortable, and used topic guides to facilitate conversation. The lead researcher (RS) was on hand to clarify any questions or concerns. Interviews were conducted at health posts, health centres and *woreda* health offices, scheduled in private spaces, and recorded. These were transcribed and translated into English. Translation quality was reviewed (AZ), transcripts read and re-read to identify iterative themes (Ritchie and Spencer, 1994b) and select appropriate quotes (RS). Software NVivo was used to code and run queries on the data (appendix 7). Attention was paid to present both the majority and minority views.

6.5 Results

In line with the WHO framework, our results explore HEWs' experience of the inequalities generated by unequal gender norms, roles and relations, in order to understand how to address and change underlying power relations. Our results position HEWs at the interface of

health systems and communities from where they negotiate a complex range of relationships and power dynamics. A socio-ecological model adapted from McLeroy *et al.* 1988, illustrated in figure 6.3, informs our analysis and frames our results (McLeroy et al., 1988) The introduction of mHealth shapes these relationships in new and complex ways. Relationships and behaviour, although illustrated in figure 6.3 as distinct from one another, can span more than one sphere. The results are presented starting from the relationships among the HEWs, and then on to different forms of interpersonal relationships, organisational relationships, and finally community level relationships.

Figure 6.3 Socio-ecological model showing HEWs' multiple roles and relationships, adapted from McLeroy *et al.* 1988



6.5.1 Impact at individual level

Participants spoke of the limited access women in their communities had to mobile phones, which they attributed to their lack of decision-making power. Although all HEWs come from the communities they serve, when they speak about women in their communities, they often set themselves apart in terms of their decision-making ability. This assertion was influenced by HEWs' education, paid employment and the smartphone.

> *A woman living in our community is uneducated and she cannot decide everything like I can. Our culture even does not allow her to decide. Moreover, there is still a negative attitude, that is woman cannot participate in meetings or discussion.*
>
> HEW, IDI

The intervention helps HEWs be more accurate in their data collection and reporting and reminds them to follow-up with patients and clients. HEWs see it as a helping hand and a means to upgrade their skills and knowledge. Many reported increased confidence, more participation in *woreda and kebele* meetings, greater oversight of the data and improved quality.

> *[O]ur participation rate increased… [due to] the presence of this mobile service…[T]here is great variation in the participation rate from HEWs who work in Kebeles where there is no mobile service program.*
>
> HEW, IDI

> *My commitment to my work is improved. The data quality is improved, I develop self-confidence in my work, and the skill of using the technology is improved. My data handling is also improved. I can say the phone is my friend.*
>
> HEW, IDI

Several HEWs perceived the mobile as an additional person, friend or boss who helped them in their work. This was especially pronounced for HEWs working alone at health posts.

HEWs unable to partake in training, due to maternity/educational leave, felt that their trained counterparts had more opportunities to input into meetings. This suggests that training on the smartphone, rather than the presence of, or primary access to, the smartphone is the defining factor for increased participation in meetings. Drawbacks of the intervention were also identified. Some HEWs reported that they spent extra time inputting data, as paper-based reporting was still required. This was partly because the intervention had not been scaled-up and partly because it focused only on TB and maternal health, excluding the other 14 essential packages that HEWs deliver. The intervention added to HEWs' work burden and some HEWs, and their supervisors, reported that it also changed the workload divisions and thus the relationships between HEWs.

> *It is not helpful. Because the one who is trained to handle the mobile is not performing other jobs, once she starts to fill information in mobile…It is not only the mobile text that support the mothers…, rather [it is] our knowledge and skill.*
>
> HEW, FGD

> *The one who doesn't have the mobile phone may consider herself inferior to her colleague.*
>
> Supervisor, FGD

Financially, the phones may also inadvertently burden HEWs as they continue paying for the airtime charges. Primarily the HEWs seemed happy to do this as they considered the phones to be their personal property, using the airtime for personal calls and data. Though HEWs also reported being fearful that, in the case of a lost or stolen phone, they would have to bear this cost, which could put additional pressure on their limited financial resources.

> *I take great care of this mobile…Additionally, if it is lost, it is said that it should be paid by the one who lost it, and this is practiced in somewhere. For this reason, I feel discomfort. However, I felt great satisfaction getting it, currently I am using it to call.*
> HEW, IDI

6.5.2 Impact on interpersonal relationships

Most HEWs reported an intrinsic desire to help their communities as their reason for joining the HEP, though many also desired 'an occupation', 'a monthly salary' and noted that HEW 'occupation is good especially for females'. Many respondents lacked information about the HEW role and workload when joining, with some suggesting they would not have joined had they known the work burden. In Ethiopia, HEW work is in addition to a domestic work burden.

> *[A woman]starts her routine early in the morning and continues working till night and no one understands her problem. …She prepares food, feeds their children, caring for her children and cleans the compound. She cannot feed herself properly even.*
>
> HEW, IDI

HEWs find this dual burden onerous but stress that they are motivated by the positive results in their communities, the introduction of mHealth and their paid employment.

HEWs serving in rural areas report that male household heads commonly own phones, as men have their own incomes. HEWs are uniquely positioned: as women and wives, with their mainly subordinate status, and as paid workers, with a slightly higher status. The smartphones elevated the HEWs' status because – although most HEWs owned a phone prior to the intervention – it was not usually a smartphone.

> *HEWs [were] delivered with better quality of mobile compared to their own [personal phones]… for this reason HEWs working in non-project areas…are saying to HEW working at project area "you own a special quality mobile, why it is delivered only for you?"…Our HEWs are glad to have this mobile, because they feel as if this increased their social status…*
>
> Supervisor, IDI

One supervisor reported a husband's appropriation of the phone, however, overall HEWs reported controlling these phones. Thus, when asked about smartphone access, the power dynamic of men as mobile phone gatekeepers was inverted – at home HEWs managed these phones and they reported not allowing their husbands or children access. They were proud

of the phones, seeing them as their own, but also as an extension of government property. This indicates some gender transformative attitudes and enhanced HEW status.

> *I never permit him [my husband] even to touch it. Due to this reason, sometimes he says, 'what kind of mobile [is it that] you have [been] given?!'*
>
> HEW, IDI

6.5.3 Impact on relationships with supervisors

The introduction of mobile phones may have resulted in HEWs' increased collaboration with supervisors. There were reports of a pragmatic, 'teamwork' approach: when phones were lost, or network connectivity was down, supervisors would collect and upload the data.

> *It was lost ... I informed to supervisor and currently he is feeding data.*
> HEW, IDI

HEWs without primary access to the smartphones also relied on supervisors to address technology skill gaps. Supervisors, in turn, noted the improved quality of HEWs' data and seemed impressed by HEWs' ability to adapt to the mHealth system.

> *I observe that they have positive attitude and the motivation of the HEWs towards their work is improved. They have good attitude towards us too. We are helping them, and we have friendly relationship.*
> Supervisor, IDI

Project supervisors with smartphone access also took more responsibility for monitoring pregnancies and motherhood in the community:

> *When the message alarm [for a] particular woman comes to them after entering data in mobile, they feel great satisfaction. This is common not only for HEWs but also us. Sometimes the message comes to myself and it feels good, so I go to community to follow up those pregnant women.*
>
> Supervisor, FGD

Government supervisors, without smartphone access, felt their lack of skills made it harder to appropriately support HEWs who needed help. This, combined with supervisors' desire to assert their superior skill, knowledge and status, may have a negative impact on their relationships.

> *HEWs have good skills using this technology, but supervisors do not have skill. Supervisors should have at least one step better skills on this technology compared to HEWs. It is better to give the mobile phone to supervisors and the rest of HEWs to exchange information....*
>
> Government Supervisor, FGD

6.5.4 Impact on organisational relationships

Additional intra-cadre power differentials arose after the introduction of one smartphone per health post. HEWs perceived the smartphone as gifted to the health post for good performance and it was generally 'adopted' by the more senior HEW, as a signal of status. The senior HEW treated the smartphone as her own property, taking it home each evening. One HEW was said to have retained the phone during maternity leave, demonstrating strong personal ownership. This meant that HEWs 'without' smartphones were unable to upgrade their skills. Despite initial training, they had fewer opportunities to use the smartphones.

> *Yes, for example she [the senior HEW] increased her knowledge and skill about the mobile and also, she increased her own work performance. Additionally, she can use Facebook as well as she can take a picture.*
>
> HEW, IDI

Tensions over smartphone usage, 'ownership' with connotations of status thus emerged between HEWs. All HEWs and, in some instances, HEWs' family members, recognised this tension.

> *She felt uncomfortable with not getting this mobile. Not only for her, but also her husband. I myself too [would feel this way] if [it was me] in place of her.*
>
> HEW, IDI

6.5.5 Impact on relationships with community members

HEWs believed that the Smartphones increased communities' recognition of their status and that this was not dependent on phone ownership.

> *… They are happy while we follow-up with mothers after feeding their data in this mobile. And mothers give great respect to us.*
> HEW, IDI

> *Q: Does the community give special respect for your colleague after she got phone?*
> *A: The communities are giving respect for both of us in the same way. Only I and she have information about the mobile phone including its purpose.*
> HEW, IDI

Although HEWs stressed the shared status, their own accounts of smartphone usage demonstrate that status is linked to the smartphones. A *kebele* leader similarly suggested that the HEW in possession of the mobile is perceived by the community to have a higher status.

Additionally, one HEW reported that smartphones led to greater community expectation which could inadvertently place additional stress on the HEWs.

> *Q: What is the feeling of the community on the mobile phone?*
> *A: They are happy, encourage us to work hard more and they are giving positive comments since we get this chance, so they expect more things.*
> HEW, IDI

6.6 Discussion

6.6.1 Main finding of this study

HEWs' lives are embedded within the communities they serve. As individuals they have a unique role and agency to shape health outcomes. Like other women health workers, they juggle multiple workloads; undertaking employed health work alongside household and childcare responsibilities (Witter et al., 2017, George, 2008, Steege et al., 2018b). Adapting

the McLeroy et al. 1998 socio-ecological model, this study explored the experience of HEWs interface role with regard to mHealth's impact on their work and on relationships within households, communities and in the health system. In parallel, applying the WHO framework demonstrates that while the mHealth intervention did change gender and power relations, it did not address the underlying causes of gendered health inequalities. In this sense, it did not achieve the WHO milestone for gender transformative interventions. Rather, the intervention intentionally addressed gender-based health inequalities through remedial action. This, in accordance with the WHO framework, is a 'gender specific' approach and intervention – a step towards gender transformative research, but not yet there. Incremental improvements nonetheless result in better healthcare provision for populations. As demonstrated here, the intervention equipped HEWs with knowledge and tools to perform effectively and provide more equitable care to communities - reflecting mHealth's positive potential for health outcomes and health system strengthening (Bloom et al., 2017, Hampshire et al., 2017, Jennings and Gagliardi, 2013a).

These findings demonstrate the increased social status and agency felt by the HEWs, who as government employees, already experience superior status; they acted as gatekeepers to the phones within households inverting the traditional patriarchal norms where men are the primary keepers of technology. In most cases, HEWs felt the smartphones improved their skills; gave them opportunities to share their knowledge in meetings; and aided their workloads by acting as a 'boss' or a 'friend', serving helpful reminders to follow-up with patients. However, the unequal distribution of the smartphones also changed power dynamics between HEWs, impacting on workload distribution. Inadvertent financial burdens linked to the running costs and potential loss or theft of the mobiles introduced new pressures on the HEWs. These drawbacks require consideration for scale-up.

6.6.2 What is already known on this topic

Literature on mHealth interventions and patient empowerment shows mHealth has the potential to empower communities and transform harmful gender norms but access and use may also reflect and extend current gender inequities (Jennings and Gagliardi, 2013a). A 2013 review looking at studies from Nigeria, India, Tanzania, Uganda and the Congo found that in cases where husbands did not have access to phones, female community members would

render phones to husbands (Jennings and Gagliardi, 2013a). However, our findings show a shift in patriarchal norms - HEWs became the gatekeepers of the technology, not allowing their husbands access. Similarly, an Indian intervention (Balasubramanian et al., 2010a) which registered CHWs phones in women's names, led to male household members requiring permission to handle the phones.

Our findings echo concerns in the literature about mHealth financing of HEWs' smartphones. By not providing unlimited airtime, health extension programmes risk transferring the financial burden to those least able to afford it. Hampshire *et al*. argue that CHWs subsidise health care from their own pockets when expected to pay mobile airtime (Hampshire et al., 2017). This links to wider debates in moral economies of care, which sees women undertake a large proportion of the unpaid care workforce. Maes (2015) describes the institutional rhetoric of urban Ethiopian CHWs as 'priceless' (Maes, 2015b). This rhetoric is internalised by CHWs, who feel a strong moral obligation to care for the sick or pregnant in their communities at their own expense (Hampshire et al., 2017, Maes, 2015b), at times further impoverishing themselves and their families (McPake et al., 2015b).

Conversely, financing smartphone usage could further limit informal use. Although no restrictions were issued, some HEWs refrained from personal gain as the smartphones were government property. Given Ethiopia's political climate during data collection, which had seen social media use restricted in the wake of anti-government protests (Amnesty, 2016), it's possible that HEWs felt uncomfortable using government devices beyond their official capacity. While there is no evidence as to whether women are more likely to be affected by the political climate, our results demonstrate proud women over-burdened in their work and limited in their choices. HEWs are low in health system hierarchy (Maes et al., 2015b) and they saw their jobs as 'good for females', but arguably the litmus test for gender transformative programmes is that HEW employment becomes acceptable as men's work with attractive employment conditions (Steege et al., 2018b, Jackson and Kilsby, 2015b).

Medhanyie and colleagues found, in Tigray, Northern Ethiopia, that HEWs' unrestricted smartphone usage helped familiarise and motivate HEWs (Medhanyie et al., 2015). Unrestricted use may have multiple benefits to healthcare – in Kenya CHWs' WhatsApp

groups disseminated health information at times of outbreak, built morale, improved supervision and documented the quality of services delivered (Henry et al., 2016). Moreover, HEWs in Tigray used smartphones for accessing the internet and social media, thus independently gaining information and resources (Medhanyie et al., 2015).

6.6.3 What this study adds

Many studies have focused on communities' gendered access to mobile technology (Jennings and Gagliardi, 2013a), whereas this paper examines mHealth's impact on the experiences of female HEWs. Unlike in Bangladesh, where technology was appropriated by husbands or seniors as a consequence of gender dynamics (Bloom et al., 2017, Jennings and Gagliardi, 2013a), our findings show signs of change in household dynamics in a context where, although phone ownership was a male norm, HEWs have become the gatekeepers of the phones accorded to them.

Application of the WHO framework for gender transformative research demonstrates positive HEW empowerment in skill building and data handling. The intervention increased HEWs' expectations of themselves and communities' expectations of HEWs. This is not unique to Ethiopia. In Malawi and Ghana, CHWs' mobile phones led to additional time and emotional burdens, with CHWs often responding to out-of-hours calls (Hampshire et al., 2017). These burdens, along with the risk of theft and loss – also reported as a concern of Mozambique's CHWs (Thondoo et al., 2015) – show smartphones add status and help HEWs perform well on the one hand and increase risks on the other. HEWs, as women, may have diminished ability to endure such risks as they have fewer resources and networks.

HEWs face large workloads and technological interventions should support, rather than undermine. In this study, changed power dynamics and some tensions were reported between HEWs as one of the HEWs adopted the phone for her personal use. While tensions over phone ownership and phone-related activities affecting work burdens have been reported between couples (Jennings and Gagliardi, 2013a), to our knowledge this has not been reported within health system cadres. This is an example of how, even with the best of intentions, there is still opportunity for gender and power dynamics to play out in unexpected ways.

6.6.4 Limitations of this study

First, our study focused on a relatively small subset of HEWs in one region of Ethiopia and this context may differ from other parts of the country (Mays and Pope, 1995). Secondly, as this intervention was a pilot, we could not explore how mHealth technology played out in gendered ways across all health packages. Thirdly, we must consider our positionality as researchers. While every effort was made to ensure participants understood the confidentiality and were able to speak openly, it may be that they saw the (local and otherwise) data collectors as project staff, government workers or 'outsiders' and tailored their answers accordingly (Adler and Adler, 1987). It is also important to situate our findings within the political context of Ethiopia, which may limit freedom of speech during the study period (Ostebo et al., 2018). Finally, we did not have the opportunity to speak with the health development army – a less powerful cadre of female volunteers working below the HEWs. The working relationships between HEWs and the women of the HDA may have been affected by the introduction of the new technology thus, it would be prudent to explore the opinions of this cadre of women who may have more limited opportunities to be heard and supported and to ensure they are not inadvertently disadvantaged by the technology.

6.7 Conclusion and recommendations

Although intended to enhance female HEWs' role in Ethiopia's health system, introducing technology without addressing power relations or other dimensions of their work can bring challenges. Specific actions could make the intervention more gender transformative: distribute smartphones to all HEWs to avoid creating inequalities; ensure workloads are equally shared and that all HEWs are given opportunity to upgrade their skills. Additionally, scale-up of the intervention may alleviate HEWs' workload and build their skills as data collection is streamlined across all 16 health packages. However, this will require further research and technical support for troubleshooting that, while manageable in a pilot, may cause delays at scale. Cooperation with the private sector for airtime may also help to ease any financial burdens falling on the HEWs.

Supportive policy change that fosters progressive changes in the underlying power relations and in the structure of the health system should challenge patriarchy in the household,

community and health system. It should recognise women's rights as individuals; challenge norms that equate household and reproductive work to women's work ; create opportunities for HEWs to engage in policy-making processes (Maes et al., 2015b); and enable progression to more senior positions, such as that of supervisor. Failure to address these dimensions may mean that HEWs' mobile phones reproduce a cultural gender imbalance that may be holding this cadre back.

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Chapter 7: Discussion

7.1 Chapter overview

This chapter presents a summary of the main findings and how the various strands came together to provide insights that address the overarching aim of the thesis: *How do gender norms, roles and relations shape both CHWs' working lives, and how CHW policies and guidelines play out across differing contexts?*

It draws insights from these findings to advance the knowledge base in this area and reflects on the implications for health systems – providing guidance for how to make CHW programmes more gender equitable and a checklist for gender sensitive programming. It discusses the study strengths and limitations and provides recommendations for future research.

7.2 Main findings in context

This thesis found that contextual and individual factors mediate and shape how gender plays out for CHWs across contexts and across various levels. Demonstrated in findings across the distinct chapters of the thesis (the literature review, key informant interviews, Mozambican study and Ethiopian study) was how gender and power structures are subject to change between health workers, supervisors and their clients. Emphasising the unique interface position that CHWs occupy as both part of the health system, and their communities. This position is demonstrated in the conceptual framework developed as part of the literature review (chapter two) (figure 7.1). In this way, the thesis confirms post-modern feminist theories – gender is understood as relational, (Connell, 2012) and 'performative' in that it is constantly evolving via everyday actions and interactions (Butler, 1990). Gender roles, relations and identities are therefore fluid and multidimensional; embracing economic relations, power relations, affective relations and symbolic relations and interacting with social change processes (Connell, 2009, Tolhurst et al., 2012).

Chapter two, for which the conceptual framework was developed, alongside the key informant interviews (chapter four) helps to set the global scene for the thesis. There was a lot of synergy between the findings in these chapters. The two chapters explore the multidimensional nature of gender and allow for comparisons to be drawn and provide concrete examples of how gender norms, relations and identities can impact on CHWs' working lives in similar ways across multiple contexts and across multiple levels. For example, training of CHWs is influenced by gender norms and intra-household relations surrounding livelihood negotiations, domestic work, women's reproductive roles and childcaring duties that may make learning away from home difficult for some women. This was shown across several contexts and is inextricably linked to individual circumstances (such as marital status) and health system factors (such as whether the training is single sex). The influence of gender norms on CHW experiences of training was discussed in key informant interviews with reference to countries such as Zambia, Mozambique and Afghanistan (chapter four), within the wider international literature (chapter two), and again within the empirical findings from Mozambique (chapter five). Likewise, the restricted mobility that many women face moving around their communities was demonstrated in the international literature from Nigeria, India, Bangladesh, Ethiopia among others (chapter two) and key informant interviews from Bangladesh, Mozambique, Afghanistan and Liberia (chapter four). Women's mobility is shaped by socio-cultural and religious norms as well as policies and can both challenge their ability to provide healthcare to their community members, and progress through their careers. This highlights the need for supportive policies in this area. For example, in Ethiopia HEWs are restricted from transferring between locations – this is unique to this cadre within the health system and reinforces existing limits on women's mobility (Jackson and Kilsby, 2015a)

Key informant interviews conducted with policy makers, implementers and researchers reveal a willingness to encourage more gender equitable CHW programming and policies. Although this may be augmented by the sampling of respondents, which elicited a group with some prior interest in this area. What was also clear however, was that there is a distinct lack of tools, checklists and guidance on what a gender-responsive CHW programme looks like tangibly and a current limited focus on gender in HRH policies. This was also demonstrated by the document review of four REACHOUT African settings (see 1.4). This is compounded by

high levels of fragmentation of policy actors, limited input from gender departments and structural barriers such as a lack of funding. Participants spoke of the high chance of policy evaporation. While policy evaporation is common, there may be an increased risk of the gender perspective evaporating due to the cited lack of gender advocates or focal person by participants and a lack of tools for monitoring and evaluation. Minimising the risk of evaporation will require allocation of responsibility, capacity building in gender including pedagogic and participatory approaches, continued follow-up and mentoring, and gender sensitive indicators (Theobald et al., 2005).

In findings from Ethiopia, Mozambique and the wider literature the act of becoming a CHW brings about social change in and of itself, highlighting the fluid nature of gender relations. The role of CHW gives women (and men) increased agency and status in their communities and can be an empowering experience (Ved et al., 2019, Mumtaz, 2012a, Mumtaz et al., 2013, Saprii et al., 2015b, Steege et al., 2018c). This thesis demonstrates this through the experiences of CHWs in Ethiopia and Mozambique, but it also reveals the dynamic and conditional nature of this empowered position, which can be altered by the introduction of new policies and guidelines and is shaped by multiple intersecting factors such as age, marital status, gender and location, as shown in the conceptual framework (figure 7.1). In Ethiopia, change was also brought about by the introduction of the mobile phone.

Much like gender, health systems can also be said to be inherently relational (Gilson, 2003). Findings from the two empirical country studies demonstrate how policies and guidelines that govern CHW programmes do not exist in a vacuum: gender relations influence how they play out in practice influenced by a multitude of contextual factors. The complexity of the policy making process is mirrored by complexity of how policies play out on the ground.

In Mozambique, policies and guidance around the recruitment, training and retention of APEs are all influenced by gender norms that dictate men are the 'breadwinners' of society, whereas women are the primary domestic caregivers. For example, a four-month training programme away from home impacts men's ability to fulfil the 'provider' role for their family as they rely on the minimal subsidies set out by the Mozambican government and cannot take part in additional income generating activities for these few months. Conversely, some

women may find it more difficult to eschew their domestic roles, which often include being the primary caregivers to children, and find someone else who can take on this role in their absence. Gendered intra-household bargaining also impacts some women who struggle to assert decision-making power over their own livelihoods and their ability to work can be constrained by patriarchal hierarchies within the family. This was in part linked to the limited monetary gain from the role, with some husbands deeming the role of little value due to the minimal income attached. Sen (1990) describes how women's contribution to the household may be diminished by gendered ideologies that characterise women's income as 'supplementary' to that of the male 'breadwinner' (Sen, 1990).

Male decision-making power limiting women's decision-making power over health seeking behaviour in LMICs has been well documented (Richards et al., 2013, Mboane and Bhatta, 2015, Steege et al., 2018b). Intrahousehold bargaining positions have also been shown to be influenced by an individual's ability to pay, or perceived contribution to household livelihoods, among community members in Ghana (Tolhurst et al., 2008). The findings from Mozambique therefore highlight the interface position of CHWs, demonstrating they are subject to the same gender relations as the women they serve. Studies from the Democratic Republic of the Congo have also demonstrated female CHWs limited autonomy in decision-making (Steege et al., 2018a, Raven et al., 2015b). These multiple studies show the importance of challenging the patriarchal notion that men should make decisions about whether their female household members can work outside the home. Challenging this notion needs to occur in communities and with CHW supervisors and managers who may inadvertently reinforce this notion as they are often called upon to liaise with husbands in instances where spousal consent to work outside the home in sought, as shown in Mozambique. Challenging patriarchal norms around livelihood decision-making should occur simultaneously alongside supporting and being responsive to the strategic interests of women in these settings (Steege et al., 2018a). The research in Mozambique also revealed interesting findings around policies on place of work that have gendered implications for women. Policy dictates that the APEs do not operate out of a health post, but within communities – often using their own, or community members homes. These policies however disproportionately impact on female APEs who are often not the primary decision-makers within their homes – if they treat clients out of their homes, they may be subject to family

disapproval. This disapproval can lead to attrition, but it may also place women at risk of domestic violence, which can further limit their autonomy and decision-making power.

Gender theory also recognises that gender operates across multiple levels (intrapersonal, interpersonal, organisational and society-wide) simultaneously, change in one direction may happen independently from change in another (Connell, 2012, Lorber, 1994), but equally change in one may influence change in another. This was demonstrated in Ethiopia, where the introduction of new guidelines and a new resource around using mHealth for the HEW cadre, created new, and multidirectional, power and gender dynamics across different levels for women who already occupy a unique position: as wives and women in the community with subordinate status to men, but with the elevated status of HEWs. In the household, women became gatekeepers of the phones, inverting a common dynamic in the community where men are primary gatekeepers of phones. This dynamic may have also been influenced, and amplified, by the political context within the country during the time of research and the perception of the phone as government property. At the organisational level relationships were also changed and re-negotiated between female HEWs as phone ownership was linked with status - bringing a new power dynamic.

Increased agency and ownership has been demonstrated in India where phones registered in rural women's names led to male household members asking permission to handle the phones (Balasubramanian et al., 2010b). In some instances, the phones were appropriated by husbands or sons, due to the gendered hierarchy in the community but the majority of phones were handled by the women. The findings from Ethiopia extend this to the HEW cadre – highlighting both their interface position as HEWs and also as women in communities and the relational nature of gender. Finally, for the individual HEWs the status accompanying phone ownership brought increased social agency in the community – where the introduction of the phone brought increased respect and recognition from community members (Steege et al., 2018c). The increased status brought by the phones has also been shown in literature from Uganda and Mozambique (Thondoo et al., 2015). These examples demonstrate how the gendering of the health workforce occurs not only in distinctions between occupations but the relations within occupations (Connell, 2012) and is influenced by new technologies, policies and guidelines. Tensions over phone ownership and phone-related activities affecting

work burdens have been reported between couples before (Jennings and Gagliardi, 2013b), but this finding of the creation of new power dynamics between HEWs extends the literature on mHealth and occupational relations.

Social identity theory, which proposes that a person's sense of self is defined by the group to which they belong (Tajfel and Turner, 1979), provides an interesting framing for the gendering of the health workforce within occupations. CHWs belong to a collective group identity and their behaviour is therefore subject to group social norms (Lewis, 2011). It is said that establishing the status of the group (in this case of CHWs in the community) become important drivers for the individual's behaviour (Lewis, 2011). A social identity approach has therefore been used to hypothesise that CHW motivation will increase due to their sense of belonging to a collective (Strachan et al., 2015). What is interesting to note however, is that even within collective groups gender and power dynamics are present, which the above example from Ethiopia serves to highlight. Within the collective of the HEWs the introduction of the smartphone caused a new power dynamic and created a division within the group. The HEWs however, reported that the phones increased the status of the collective HEW identity in the eyes of the community, rather than the individual HEW and thus were pleased.

Health system biases coupled with gendered structural determinants and discriminatory norms in society, limit female CHWs and health outcomes for the communities they serve (Sen and Ostlin, 2008). The distinct gendered challenges to the role of CHW that arise in this thesis need to be addressed in order to meet the calls of the SDGs. The SDGs demand good health and wellbeing (SDG three), which has the target: '**3.c** Substantially increase health financing and the recruitment, development, training and retention of the health workforce in developing countries, especially in least developed countries and small island developing States'; gender equality (SDG five), which aims to '*Adopt and strengthen sound policies and enforceable legislation for the promotion of gender equality and the empowerment of all women and girls at all levels'*; and decent work and economic growth (SDG eight), which has the specific targets: 8.5 *By 2030, achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value* and; 8.8 *Protect labour rights and promote safe and secure working*

environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment (UN, 2015).

7.3 Implications for health systems

"The worker must have bread, but she must have roses, too."
Rose Scheiderman, 1912

The above quote is from Rose Schneiderman, a member of the Women's Trade Union League, addressing a group of middle-class American women about labour rights in the early twentieth century (Rohan, 2008). At the time women were just entering the formal economy and working in low-skilled jobs without a "living wage" unlike their male counterparts (Rohan, 2008). In this speech Schneiderman was calling for fair wages (bread) and decent living conditions (roses) for working women.

More than a century on this quote speaks to the challenges facing the CHW cadre in LMICs today. Trade unions and social collectives may have a role to play here. Civil society has shown success in the fight for women's equality (Petterson, 1988), in encouraging women to enter and remain within scientific careers (Davis, 2001) and in political health movements (Heywood, 2015, Sabi and Rieker, 2017). Women's organisations were also instrumental in securing a separate SDG for women's empowerment (Gupta et al., 2019). In response to the HIV/AIDS epidemic in South Africa in the 1990s and the limited access to life-saving anti-retroviral treatment in public hospitals, civil society groups established platforms to discuss health policy change. One such group was the Treatment Action Campaign (TAC) formed in 1998. The TAC advocated for improved HIV/AIDS health service delivery. The efforts succeeded in shaping the current HIV/AIDS policy through various initiatives such as the use of constitutional law in legal action against profiteering drug companies (Sabi and Rieker, 2017). Key to its success – was the relationship TAC built with the labour movement in South Africa (Heywood, 2015). HIV is inextricability linked to poverty and inequality, and the epidemiology of HIV mirrored social fault lines created by the apartheid migrant labour system, explaining the high rates of HIV infection seen among mine workers (Heywood, 2015). Recognising this, the TAC made strategic links with the Congress of South African Trade

Unions (COSATU) – the largest cohesive social movement of working-class and poor people in South Africa; the National Union of Mineworkers; and the South African Democratic Teachers Union. The Congress of South African Trade Unions' involvement in campaigns for HIV prevention and treatment was essential for the TAC to fulfil its mission of ensuring equal access to treatment for all people with HIV/AIDS and in lobbying pharmaceutical companies to lower the cost of prohibitively expensive anti-retroviral treatment (Heywood, 2015). The TAC was nominated for a Nobel peace prize in 2003.

Unionisation was also described in key informant interviews from Brazil (chapter four) as showing success for CHWs in the fight for professionalisation and wages. Unions in several states across Brazil represent CHWs on labour-related issues and advocate for CHW priorities at the state and federal level (Schaaf et al., 2018). Further success has also been shown in India. Female Anganwadi workers (a type of CHW that started in the 1970s and still functions today) unionised, and after decades of organised protests, now receive paid maternity leave, medical insurance, and a raise in their fixed payments (Bhatia, 2014, Schaaf et al., 2018). Collective voice and action may be especially helpful in pushing for change given the low-status position of CHWs within a hierarchical government health system (Schaaf et al., 2018). In this way, organised CHWs may hold a stronger counterweight to state power. Unionisation of CHWs, however, is still relatively uncommon. Without them, the onus falls on the health system, which has a duty of care to those it employs, to address fair wages and decent work for CHWs in line with SDG eight and SDG five.

Aligned with broader contemporary social change movements towards gender equity such as #MeToo, the role of gender and the importance of gender equity in human resources for health is becoming increasingly acknowledged. This is demonstrated by the recent special commission on Women in science, medicine, and global health at the Lancet, called the Lancet Women, theme issue (Clark et al., 2017) and the establishment of the WHO Global Health Workforce Network's thematic hub on gender equity in the health and social workforce (WHWN, 2018). Nonetheless, much of the literature remains focussed on women's leadership at the higher levels of the health system hierarchies (Talib et al., 2017, Shannon et al., 2019, Dhatt et al., 2017a, Betron et al., 2019, Newman et al., 2017). Additional advocacy is needed to extend this analysis to the CHW cadre, who occupy a low status position envisaged at their

conception. The conception of the CHW cadre saw them as instrumentalist by design – the cadre harnessed informal workers, with less power and limited livelihood opportunities (PAHO, 2009). Their popularity grew following the Alma Ata declaration as a means to decentralise healthcare to the community level, promoting access to basic health services, which was affirmed as a fundamental human right, and advance the health care goals of 'health for all' by the year 2000 (WHO, 1978). Taking care to the community was envisioned as an embedded and sustainable approach to primary health care – forming an integral part of the health system to contribute to the overall social and economic development of the community (WHO, 1978).

Conceptualised as agents of social change, in most cases CHWs are not supported or given the tools and power to enact this role. Instead they are expected to do increasing amounts of work for overburdened and underfunded health systems. In order for CHWs to be able to bring sustainable change, improve health outcomes of their communities and support empowerment activities in their communities it has been argued that they themselves need to be empowered (Kane et al., 2016a, Shrestha, 2003). Success in their role as agents of social change has been shown in India – for example an Indian female CHW programme, known as the Mitanin Progamme saw empowered, female CHWs motivating the community to demand and utilise health services and improving the status of social determinants for women in the community (Nandi and Schneider, 2014b, Hay et al., 2019). They were able to advocate for the community and build awareness and understanding within the community on malnutrition, violence against women, entitlements and the role of the service providers, and brought about changes in attitudes against women and the poor in their communities (Nandi and Schneider, 2014b). Beyond India however, there is more limited experience of CHW programmes addressing social determinants of health in LMICs (Lehmann and Sanders, 2007b). Examining CHW empowerment from REACHOUT data, Kane et al. (2016) found the nature of the work, feeling competent and well-trained and seeing the impact of their work were all perceived to be empowering experiences for CHWs. They therefore argue that creating an empowering work environment of CHWs should not be seen as a call for indiscriminately expanding the scope of curative tasks of CHWs, but that CHW programme design and implementation should be interrogated to identify disempowering organisational and management arrangements, and take steps to remedy these (Kane et al., 2016a).

There is also a need to explore the power dynamics that undercut CHWs' ability to become agents of social change and accountability. For a low paid, or unpaid, cadre this may hinge on financial obligations and CHWs may prioritise pay, professionalisation and career progression over supporting or empowering their communities (Schaaf et al., 2018). Lack of remuneration for Ethiopia's health development army (a volunteer cadre working under HEWs) has been shown to be disempowering – especially given they are not paid "*for the same work that the men had been paid to do in the past*" (Maes et al., 2015a). Kane *et al.* also found limited remuneration was a hindrance to empowerment for many CHWs across contexts, alongside limited power and voice (Kane et al., 2016a). The issue of voice deserves exploration and needs to move beyond implementing policies alone. For example, in Ethiopia's HEP, HEWs are given a role within the *Kebele* cabinet. However, the lack of a meaningful role for HEWs as decision-makers within the cabinet mean their voice is constrained (Jackson et al., 2019). This represents a lost opportunity to value the knowledge and experiences of HEWs in decision-making. Ved *et al*. (2019) also provide another example from India, where government policy positions the ASHA as a member secretary of village health committees. This creates leadership opportunities outside of the sphere of reproductive, maternal and child health. Although, rigid gender norms can prohibit ASHAs from entering these roles and impact on communities acceptance of ASHAs within the roles (Ved et al., 2019). These examples serve to highlight how it is not enough to be simply given a platform to speak, but to consider whether CHWs have the power or agency to be heard, or to hold governing bodies accountable. Accordingly, there is a need to move beyond tokenistic inclusion of CHWs in health systems governance and decision-making structures. Broader historical and social norms and constructs can stifle voice and accountability and rather than creating enabling spaces for empowerment of community health workers, existing power structures are reinforced.

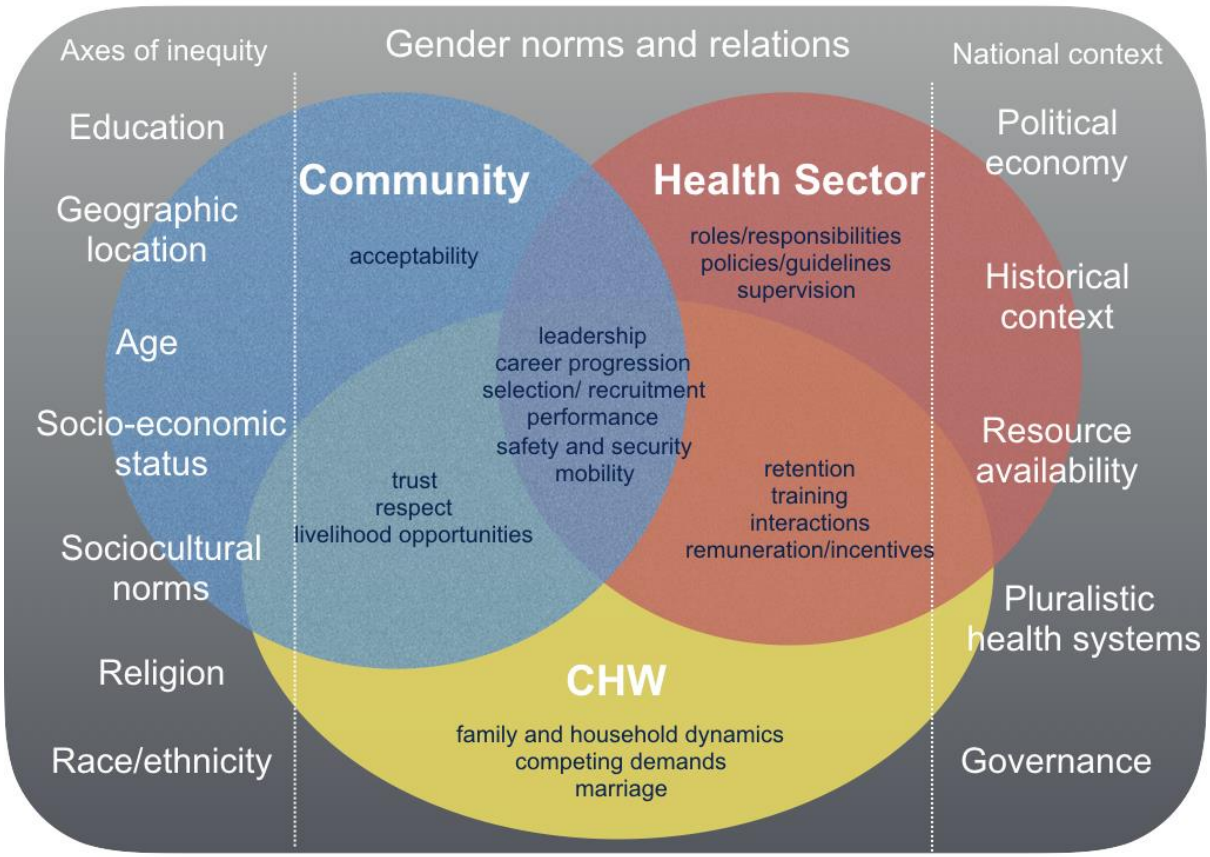
Today, most CHWS globally are female (WHO, 2018d, Maes et al., 2014). A continued reliance on female voluntary work is deeply problematic (Maes et al., 2018). Firstly, it does not tackle power relations that require addressing male gendered behaviour (Feldhaus et al., 2015a). Further, it perpetuates gender disparities in access to employment and income generating opportunities. Keeping labour informal also prevents women's eligibility for financial

protection and insurance (Ravindran, 2012, Ravindran and Nair, 2012) and misses opportunity to work towards target 5.4 of the SDGs – to recognise and value unpaid care and domestic work (UNDP, 2015). Voluntary work at this level may reinforce gender segregation in the health workforce and reduces the CHWs' power to negotiate for their rights; women remain segregated to informal health jobs with the least pay and the least power (Newman, 2014a, Witter et al., 2017). As recommended by the WHO (WHO, 2018d), CHWs should be remunerated for their work with a financial package commensurate with the job demands, complexity, number of hours, training and roles that they undertake. This will help meet the calls of the SDGs (three: good health and wellbeing; five: gender equality; eight: decent work and economic growth) and align health policy to the broader international agenda on decent work. This entails opportunities for work that is productive and delivers a fair income; security in the workplace and social protection for families; better prospects for personal development and social integration; freedom for people to express their concerns, organise and participate in the decisions that affect their lives; and equality of opportunity and treatment for all women and men (WHO, 2018d, ILO, 2019).

Transforming the labour rights of this cadre will encourage gender transformation in a broader sense. Empowered CHWs help address social determinants within communities as demonstrated from the Indian literature (Nandi and Schneider, 2014b, Bhatia, 2014) but also, as female CHWs gain financial autonomy their perceived contribution to household economy increases, which in turn gives them autonomy in household decision-making (Tolhurst et al., 2008). Further, women have been shown to invest up to 90% of their earnings towards their families' wellbeing compared with 40% invested by men, which can contribute to health promoting investments (Langer et al., 2015, Buvinic et al., 2010). Policy and investment decisions on health workers have broader implications on several other targets of the SDGs, including job creation, economic growth, gender empowerment and education (WHO, 2018d). Some may argue that this transformation would alter their embedded interface role within communities - making them more accountable to the health system and weakening links to communities. Indeed, this argument has been made in terms of formalisation of the cadre (Schaaf et al., 2018). Nevertheless, what is clear from my research is that they are already accountable to both, and instead of feeling valued by their countries' health systems CHWs in both Ethiopia and Mozambique spoke of feeling exploited and used.

Underpinning broader societal shifts in labour and economy - health systems can help to position CHWs in a more equitable way. The conceptual framework (figure 7.1) highlights areas in which the health system should pay attention to gender norms and relations, and where it can enact change – thinking through the areas that fall within the health system sphere and the ways in which gender norms may enhance or limit opportunities for men and women within the CHW cadre based on sex will help to provide more gender equitable policies and programmes. It was developed as part of chapter two literature review, but I have revised it in light of thesis findings. It now includes 'religion' and 'geographic location' in the 'axes of inequity' column to the right, and 'livelihood opportunities' in the community and CHW overlap.

Figure 7.1 Conceptual framework adapted from chapter two in light of thesis findings



7.3.1 Success in gender-transformative CHW programmes

Examples of vertical programmes that have been gender-transformative for both health workers, and their communities exist in the literature (Donner et al., 2017, Nandi and Schneider, 2014b, Jackson et al., 2019, Steege et al., 2018c). For example, the President's Malaria Initiative Africa Indoor Residual Spraying Project implemented a series of gender-guided policies in Benin, Ethiopia, Ghana, Mali, Madagascar, Mozambique, Rwanda, Senegal, Zambia, and Zimbabwe in 2015. The policies included adapting physical work environments to ensure privacy for women e.g. ensuring separate sex and appropriate bathroom, shower and change facilities. This included having showers with proper drainage so that others cannot see the residual water - important for women when they are menstruating; improving the safety of women in the workplace via implementing female-female working pairs - appropriate in contexts where social norms discourage women from working alone with men who are not their family member; guaranteeing safety and job security of women during pregnancy; and giving hiring priority to qualified women applying for supervisory positions (Donner et al., 2017).

The project increased women's employment from 23% in 2012 to 29% in 2015 (Donner et al., 2017). Growth was also seen among supervisor roles, with the percentage of women in supervisory roles increasing from 17% in 2012 to 46% in 2015. Whilst this is an impressive change, the experiences of women following policy implementation were not evaluated. Qualitative work here would provide additional insights into any unintended consequences of these policies and lessons to take forward. Some of the success of the project can be attributed to country level flexibility where countries could adapt their own policies based on their context. For example, installing a mentorship for women in leadership scheme (Ghana), working with local leaders to ensure recruitment was in line with the project's gender equity goals (Benin) and adapting restrictive recruitment policies that previously excluded women (Rwanda). The study found mixed results with regards to whether there was a shift to more egalitarian gender norms, though the authors attribute this to the seasonal nature of the programme, whereby positive shifts towards egalitarian gender norms were not-sustained after the spraying season, and project, ended (Donner et al., 2017).

An example of gender-transformation within the community comes from an Indian female CHW programme, known as the Mitanin Progamme. The programme envisaged the CHW (or Mitanin's) as activists who would empower the poor and marginalised in their communities. This vision was carried through to selection, training, ongoing support and systems of accountability and remuneration (Nandi and Schneider, 2014b). Training aimed to build perspective, skills and knowledge on issues and gave the Mitanin's legitimacy to work on social determinants of health. This was supported by on-the-job training and field-level support. Involvement of village councils also meant that Mitanin's had autonomy from the health department and were accountable to the community (Nandi and Schneider, 2014b). A result of the programme was that the Mitanin's were empowered and able to support the empowerment of women in the community. They could access information about their rights, partook in community decision-making and understood violence against women as a social, rather than personal issue (Nandi and Schneider, 2014b). These examples serve to show that gender sensitive policies, whether small logistical changes, or comprehensive training can improve the wellbeing of women CHWs, and women within communities.

7.3.2 The need for, and implementation of, gender sensitive policies

Speaking with various stakeholders throughout the PhD process, both formally in the key informant interviews and informally outside of thesis research, has revealed a clear need for some practical guidance regarding gender sensitive CHW policies. Evidence also shows that understanding of 'gender' with regard to CHWs is often limited to demand-side issues (Jackson et al., 2019). Without a comprehensive understanding of the gender and power relations at play from both the demand and supply side – CHWs programmes will be limited in their ability to be transformative. Gender as a concept can be perceived as too abstract and findings from the key informant interviews suggested policy makers and implementers may respond well to something more tangible. For this reason, I have developed a checklist for gender sensitive CHW policy making as a starting point (table 7.1). This tool is intended to be a springboard for discussion and dialogue among policy makers, implementers and funders from which to develop and embed relevant strategies within their own contexts. It should be adaptable, co-created, reflexive and linked with supportive supervision strategies for CHWs. Supportive strategies may be crucial to helping CHWs navigate their interface position and

have demonstrated success in supporting CHWs in India (Nandi and Schneider, 2014b) and South Africa (van Ginneken et al., 2010). Supportive supervision has also been shown to impact positively on CHW performance (Kok et al., 2014, Hill et al., 2014) and a lack of supportive supervision has been cited as a concern for HEWs in Ethiopia (Jackson et al., 2019). Further, it may be practical to adapt for various people who manage CHWs. Adaption by context is also crucial, as demonstrated by the President's Malaria Initiative Africa Indoor Residual Spraying Project discussed above (Donner et al., 2017). Of note, qualitative and quantitative indicators for each policy will need to be co-created with CHWs and health systems governance actors.

The institutions through which health care is delivered, such as hospitals, health centres and clinics have well-defined gender regimes[11] (Connell, 2012). The dynamics of gender regimes influence the planning of health care through these institutions (Schofield, 2009). Conversely, CHWs take on a unique interface position between the community and health system, as shown in the conceptual framework, operating out of their communities and households. Gender dynamics for them are influenced by the community and the health posts and centres from which they and their supervisors may operate; CHW policies are often adjusted on the ground and negotiated by gender norms and relations at the community level. In this way, CHWs have sometimes been referred to as 'street level bureaucrats. This concept coined by Lipsky (1980) refers to civil servants who interact with the public and who face pressures of chronically inadequate resources, a growing demand for services, vague roles and responsibilities and difficult to measure performance. The decisions and routines they establish to manage their work effectively become the public policies they carry out (Lipsky, 1980). This was demonstrated in the KIIs where examples of CHWs' ways of working were mediated by gender norms that were not reflected in policy. This level of policy evaporation also needs to be considered when developing tools for use – while guidelines supporting gender equality can be passed at the national level, they will only result in transformation if they are owned by local actors (Ved et al., 2019). One recommendation therefore is to have gender advocates, advisors and focal persons working within the policy environment, across

11 A gender regime refers to the state of play of gender relations in a given institution. For example, state regulation, and workplace organisation. CONNELL, R. W. 1987. *Gender and power: Society, the person and sexual politics*, Stanford University Press.

various institutions e.g. MoH, related ministries and NGOs to champion this area and encourage gender discussion within the context of mainstream CHW discourses. This would also help to progress multi-sectoral working, which was cited in the key informant interviews as often lacking (chapter four). As noted by Theobald et al. (2005) it is important to not only have female gender focal points – which serve to reinforce the misconception that gender in only a women's issue, but male too (Theobald et al., 2005). Gender specific policy also creates a need for capacity building and training – this involves engaging with new concepts and terminology and developing new skills. This training must be sustained via mentoring, follow-up and ongoing cycles of learning and reflection.

To reduce the gender focus evaporating it will also be important that indicators are gender sensitive. Implementation of such a checklist would minimally require that indicators are measured, followed up and corrective action taken. Further disaggregation of indicators by socio-economic status and age would also be helpful to understand the needs of distinct groups of CHWs. Quantitative tools for gender analysis that treat men and women as unitary are insufficient to enable a robust analysis of the intersections that shape the working lives of CHWs (Tolhurst et al., 2012, Hankivsky, 2005). Therefore, qualitative data and analyses are critical to capture the nuance of CHWs lived experiences and the processes of change. In particular the creation of spaces for the voices of women and men with differing views and positionalities is key to challenging existing power structures. As Tolhurst et al. (2012) note based on seminal works by Paulo Freire (Freire, 1970) *"qualitative and particularly participatory approaches offer more potential with regard to facilitating 'conscientisation' or awareness and analyses of how multiple structural power inequalities shape embodied experience for those oppressed by them, which offers potential for creating change"* (Tolhurst et al., 2012).

Table 7.1. Checklist for gender responsive CHW policy programming

Areas of focus	Gender responsive policies	Rationale
Recruitment and selection	- Quota of women as CHWs - Training and sensitisation for supervisors and community leaders involved in selection to support gender equitable processes - Inclusion of women CHWs serving on CHW committees including training and support mechanisms to ensure voices are heard and communities are accepting - Creation of safe spaces for women in community dialogue - Association with women's groups and community development programmes can encourage women to put themselves forward in CHW selection and space for voice - Gender sensitive selection criteria – they may be different for men and women e.g. reflecting literacy rates	To encourage the selection of women there is a need to sensitise communities to encourage women to volunteer and to be selected at the same rates as men. Ensuring women's active participation in community dialogue via the creation of spaces where women are listened to and feel comfortable to talk could support this. Women may also be empowered to volunteer when associated with community development programmes or women's groups (Steege et al., 2018a). It is important to challenge the patriarchal notion that men should make decisions about whether their female household members can work outside the home. This needs to occur in communities and with CHW supervisors and managers who can inadvertently reinforce this notion, whilst simultaneously supporting and being responsive to the strategic interests of women in these settings.
Training	- Short, modular training options - On-site childcare for residential training - Option to have separate training by sex in conservative societies - Female facilitators available (especially for training of all-female cadres) - Proper disposal facilities for menstruation supplies - Appropriate shower facilities in residential training including proper draining to cover residual water - Training facilities must be deemed compliant to a central standard before operational	Modular, flexible training options support both men and women who balance unpaid or low paid CHW with other paid employment opportunities and domestic obligations. This can also help to reduce issues around length of training men and women face in being away from other obligations. Residential training can create a sense of solidarity but can be limiting for women with childcare responsibilities, and men who feel a duty to provide for their families (chapter five). On-site childcare should be offered to support this. Female facilitators can help build solidarity among female cadres of CHWs as well as comply with social constructs that deem it inappropriate for women to stay away from home in the presence of other men. This should be accompanied by sensitisation strategies to challenge patriarchal decision-making over women's livelihoods.
Remuneration	- Remuneration for all CHWs commensurate with working hours and skills - Equal remuneration for male and female CHWs (in hand with strict selection criteria)	Equal remuneration should be offered for men and women working as CHWs to ensure that the work is not seen as 'voluntary', and therefore feminised labour. This is particularly important in contexts with all female cadres of women, such as in Ethiopia (where the programme is paid but

		also relies on the help of the voluntary HDA cadre) or Nepal (where the programme relies on voluntary female labour known as female community health volunteers but has a separate salaried cadre of men – called village health workers (Glenton et al., 2010)). Equal remuneration would support the idea that women's care work is as valuable as men's. Paid work would ensure lower rates of attrition and may motivate all CHWs to give the role greater priority. Formal payment may also allow some CHWs to access employment-based health insurance, a component of UHC. Caution should be paid to selection of male candidates with the introduction of a paid position.
Supervision	- Availability of both male and female supervisors to act as role models and to work within the realities of current cultural norms in some contexts - Health post provided where supervision can occur so travel in communities is not an inhibiting factor for women becoming supervisors - Opportunities for women to become supervisors, or for preferential selection of qualified female candidates until gender parity is achieved - Mentorship for talented women to progress into supervisory positions - Space for open discussion including on issues relating to gender equity and negotiating gender and other axes of inequity in CHWs ongoing work	Gender factors should be considered in selecting supervisors as having mostly male supervisors for mostly female CHWs may be inappropriate, reinforce gender barriers, and limit acceptability and effectiveness of supervision. Evidence also shows preferential selection of qualified female candidates improved the number of women in supervisory roles (Donner et al., 2017). Women should have access to these positions and continue to be leaders in the community. Women who demonstrate that they can successfully take on these roles become role models to younger generations.
Career progression opportunities	- Sufficient educational opportunities to improve literacy for female CHWs who want to go on to further education - Sufficient sponsored courses for female CHWs to undertake further training to enter into the health system - Opportunities for women to progress to the next stage e.g. supervisor or senior CHW should be considered alongside barriers they face to get there – therefore this should be accompanied by mentorship, supportive supervision and preferential selection of qualified female	Provision of career advancement opportunities would better align CHW policies with best practices in human resources management. Opportunities for women to use the CHW position to further their education and career would contribute positively to the development of communities.

	candidates until gender parity is achieved	
Working conditions (e.g. tasks, job descriptions, safety, mobility)	- Creation of safe spaces in health centres and delivery suites for female CHWs who work at night - Option to conduct work in male-female pairs or female-female pairs depending on context to promote safety of female CHWs - Promote a zero tolerance for sexual harassment culture. This would include training on sexual harassment for all workers in health system, provision of guidelines and option to anonymously report any sexual misconduct. - Sensitisation/training on sexual harassment and violence with community members - Consideration to provision of transport options acceptable to all genders e.g. quadbikes over motorbikes may be more appropriate - Equal distribution of transport between genders - Contracts should ideally be issued to formalise labour rights for CHWs, such as maternity and paternity leave and holiday and sick pay - Contracts to support flexible working approaches - Social security measures including life insurance for CHWs - Clear job descriptions provided for all CHWs	Personal safety has largely not been considered as a policy issue. Individual women have been left to navigate organisational policies to address workplace safety. This demands attention from a policy perspective and will require an approach to training and sensitisation that moves beyond the health system to the communities CHWs work in to ensure their safety. Male/female pairs in some contexts may ensure safety of female CHWs, increase acceptability of male CHWs in communities and minimise gendered data collection biases (Njoroge et al., 2017) Contracts would provide security to CHWs and not discriminate against women for their reproductive roles. Installing paternity leave would also encourage the burden of childcare to be shared with fathers. Flexible working approaches could support CHWs to balance community health work with domestic responsibilities. Unclear job descriptions have been shown to lead to frustration and poor performance of female CHWs (Mumtaz et al., 2003, Sharma et al., 2014a) these should set out tasks and roles and responsibilities.

7.4 Has the discourse on CHWs and gender changed?

As highlighted in the introduction, there is a need to change the discourse from seeing CHWs as mere 'extension workers' to valuing and supporting them as agents of social change – paying particular attention to how to improve gender equity within the cadre. Over the three and half years that I've been exploring these issues with regards to gender equity in CHWs programmes surprisingly little has changed. While there has been a broader shift towards gender equity within human resources for health, this has not quite filtered down to the CHW

level. There is just as much enthusiasm for integrating gender analysis into CHW programmes and policies now, as there was at the beginning of this journey. Some countries, such as Mozambique are acutely aware of the limitations that the four-month training has on women and are suggesting modular training in their upcoming strategy document (MISAU, 2018). This is a great step forward, but it does not work to address the harmful gender norms that prevent women from accessing four-month training in the primary instance. Similarly, countries that aim for gender to be included in policy, rarely extend beyond thinking about literacy and selection from a gendered perspective. This is clearly demonstrated in the latest UNICEF tool "*Community Health Worker Assessment and Improvement Matrix (CHW AIM) Updated Program Functionality Matrix for Optimizing Community Health Programs"* which can be used "*to identify design and implementation gaps in both small- and national-scale CHW programs, and close gaps in policy and practice*", but only includes a cursory mention of gender from a selection perspective *(UNICEF, 2018)*.

Findings from the key informant interviews suggest that taking up this challenge is not for want of trying, but rather for want of knowing concretely how to. I hope the checklist will benefit policy makers and implementers and provide some tangible steps that countries can take in thinking through these issues within their context, though it is worth noting this is just the beginning steps on a journey to broader gender transformation. Whilst a checklist style tool has its's uses – it needs to be owned by countries and adapted to contexts and revised with temporal changes to be truly effective. It is imperative this does not become a 'tick box' approach and should be coupled with ongoing discussion that critically engages with community power dynamics to maximise the benefits of community embeddedness and has opportunities for CHWs to engage in policy making. This will allow for supportive policy change that fosters progressive changes in the underlying power relations and in the structure of the health system. The lack of a comprehensive approach to incorporating gender analysis in health programmes has been cited in the literature - as Percival et al. note in their recent review of post-conflict settings:

> *When donors and national stakeholders highlight their 'gender sensitive' programs in post-conflict contexts, they immediately discuss efforts to stem maternal mortality or address sexual violence. With these programs, they have 'checked' the gender box. Yet*

> *our analysis shows that the significant donor assistance spent on maternal health… does not necessarily address the complex myriad of factors that contribute to poor maternal, sexual and reproductive health outcomes among women and girls. Analysis of how gender impacted on the performance of the health system and the differential health outcomes of men, women, boys and girls was not undertaken. (Percival et al., 2018).*

This quote also highlights how gender also continues to be conflated with women and reproductive health – this is apparent at gender sessions held at conferences, or gender and health events where the make-up of the room is dominated by women i.e. gender is not yet seen as men's business. Understanding gender to affect the health of men, women, boys, girls and people of other genders is another step towards better addressing individual's differing health needs and experiences.

In my own work, reflecting a common occurrence at the global level, I have chosen one context where the CHW programme is all female (Ethiopia), as well as a context where CHWs are both male and female (Mozambique). By doing this I wanted to extract some of the issues and pressures that are facing male CHWs based on gender roles that associate masculinity with being a 'provider'. It remains true however, that most societies operate patriarchally, disadvantaging women. Therefore, the issues that arise and are discussed, both in this thesis but in the wider gender discourse, tend to reflect this. Nonetheless, it cannot be stressed enough that gender concerns everyone, and that gains for women do not equate to losses for men. The view of power as a zero-sum game fails to acknowledge the relational nature of power. Evidence shows that addressing hegemonic masculinities in health programmes operates in the interests of women and men, provided that women are supported to prevent men using such initiatives to consolidate their power (Tolhurst et al., 2012, Barker et al., 2010).

7.4.1 WHO guidelines for Community Health Workers

In a positive move forward for incorporating gender considerations into CHW guidelines, the WHO recently released new CHW guidelines which adopted a gender and decent work lens

(WHO, 2018d). The guidelines were developed based on an extensive review of the current evidence base - therefore a distinct lack of evidence on gender and CHWs limited the provision of concrete recommendations beyond selection criteria. The guidelines note '*Recruitment and selection procedures that maximise women's participation and promote women's empowerment should be encouraged…(considering affirmative action to preferentially select women to empower them and, where culturally relevant, to ensure acceptability of services by the population or target group)'* (WHO, 2018d). The guidelines also note the barriers that educational requirements may risk excluding women in particular in many contexts and suggest: "*The minimum level of education considered to be appropriate will depend on the tasks to be delivered, the context of the services and the training support available. Testing for certain competencies during selection (for example, literacy and numeracy) may be considered as an alternative approach in contexts where employing strict education attainment requirements would imply restricting excessively the applicant pool, for women in particular.*" (WHO, 2018d). This speaks to a rationale from policymakers in India to keep the ASHA programme informal, as by formalising the cadre there is less flexibility to relax educational requirements (Ved et al., 2019) so a degree of flexibility is required.

The explicit inclusion of these recommendations in the new WHO guidelines are positive steps, but the recommendations are largely based on the evidence surrounding the acceptability of services provided, rather than the gendered experiences of CHWs in recruitment and selection. This is where the results from my thesis, and the results from Mozambique in particular, will be able to contribute to the evidence base in this area. Other factors that come out in the thesis as having an important gendered aspect (e.g. the length of training) are discussed within the guidelines but with no acknowledgment of gender roles. The guidelines also discuss the evidence base around the effective use of mHealth by CHWs, but no gendered considerations are offered. Despite the explicit gender lens taken in developing these guidelines and the functioning of WHO guidelines committees, this is likely due to the lack of evidence in this area and highlights evidence gaps around the gendered experiences of training and using mHealth where this thesis is helpful in moving forward the evidence base. This reflects the general paucity of literature which concretely examines how gender impacts community health workers, something I hope to help address via this thesis.

Of note, the external review group for these guidelines included one male CHW and one female CHW (from Uganda and Kenya), with no evidence of any wider inclusion of CHWs – highlighting a dynamic described in CHW policy making by key informants – where there is a somewhat tokenistic effort to include CHW voices. This speaks to the larger issues around accountability and CHW input into decision-making and policy development (discussed in 7.3) which will be a key area to take forward.

7.5 Limitations

Specific limitations relevant to each methodology are explored within the relevant chapters. Here I will reflect on some of the overall limitations of the thesis as a whole, as well as my position as a researcher.

The homogenisation of women in the global South by Western researchers is something that continues (Mohanty, 1988) and becomes very apparent when discussing women at the lower end of the health system hierarchy, such as CHWs. In this vein, I have aimed to be mindful of this and although the checklist provides generic recommendations, they will inevitably need to be tailored to each context. CHWs are not a homogenous group and the concept of intersectionality is crucial here – while this thesis was not able to provide an intersectional analysis it did aim to highlight the unique circumstances that arise to create opportunities and limitations for CHWs. For example, in Mozambique it was commonly cited that men were more likely to travel abroad for work opportunities, however this was also affected by age, with reports of young men and women more likely to seek work in neighbouring South Africa. In Ethiopia, the introduction of the phone was largely regarded as a positive and a chance to upgrade their skills, but this was not unanimous - some individual HEWs felt the phones added an additional work burden. I kept in mind throughout the unique stories and situations that the inspiring women and men shared with me during my research and did my best to portray these individual situations and amplify their stories.

During the PhD my position as a foreign researcher left me conflicted. During in country fieldwork I questioned at times whether it was my place to investigate as an outsider? Taking a step back from this now I can see that although my position would have limited me with

regards to understanding the depth, nuance of the culture it provided me the benefit of impartiality to a certain degree within Ethiopia and Mozambique – able to ask blunt questions as an outsider with an interest in gender equity. However, this position altered for some of my key informant interviews with fellow researchers, where I became an insider, with a keen interest in gender equity that was often shared with my respondents, influencing the participant relations.

I have been able to disseminate results via international conferences and journal publications however, as yet I have not been able to disseminate my findings directly to the communities I researched and study participants. This is a crucial step in the research process (Ondenge et al., 2015) and one it would be remiss to overlook. An opportunity to return to Ethiopia in January 2018 following my fieldwork provided me an opportunity to informally discuss my findings with relevant stakeholders at district and zonal levels which was very valuable however, no formal dissemination process occurred, and no written materials were shared at this time. Unfortunately, budget and time limitations prevented me from going through the same process in Mozambique. The development of policy briefs for both Ethiopia and Mozambique is required as well as close linkages with researchers who have continued contact with the communities researched in this thesis to aid in the dissemination of findings more directly to communities.

Aligned with principles of qualitative research, data was collected until saturation was reached and no new major themes arose from interviews. While I did achieve saturation in both country studies for Ethiopia and Mozambique, it is unlikely saturation was reached for the policy key informant interviews as speaking to key informants in new country contexts may reveal unique circumstances and insights. For example, the use of unions for CHWs in Brazil was unique to that context. Speaking with key informants working at the international level helped to mitigate this risk as they would have oversight of many different unique contexts and bring that to the discussion. Additionally, there were synergies between the literature review findings in chapter two, and the ways in which gender impacted CHWs from the key informant interview findings within chapter four. Hence, looking at the overall data reveals saturation of the thesis as a whole as the individual elements add up to tell a story greater than the sum of their parts. The policy key informant piece, alongside the literature

review take a broader approach to understanding the gendered experiences of CHWs globally and the policy processes behind this. This is then supplemented by findings from the in-depth work in Mozambique and Ethiopia which extend and deepen findings within national contexts.

Over the course of the PhD process, I was privileged to look across multiple contexts and hear from multiple people's experience both formally, and anecdotally and weave a story of what was happening globally. Whilst this presents challenges in bringing together disparate pieces of information - as different issues were explored in the different contexts - it also amplified the different ways gender relations played out through the health system. Taking different viewpoints allowed for me to understand how gender norms and relations shape policy from the community level up to international level. I could also view the embedded nature of CHWs' experiences from multiple perspectives which helped to shape the findings of this research. It is from this position I am able to provide recommendations that I believe may be generalisable to several contexts.

Notwithstanding this, it is also important to reflect on how this research being embedded within the REACHOUT QI intervention may have influenced the transferability of research findings. In Ethiopia, REACHOUT QI was quite successfully embedded within the study districts. Study districts had adopted the REACHOUT QI 'plan-do-study-act' approach which results in continuous incremental improvements. The health staff presented as a cohesive team with a good level of internal communication. This may have meant that the adoption of the mHealth tool was more successful in these districts than if it was to be rolled out across the country. Further, REACHOUT may have influenced the reported strong relationships between supervisors and HEWs due to the intervention's focus on supportive supervision. However, the wider gender transformative findings reported within communities would be less likely to be affected by the REACHOUT intervention and are pertinent. In Mozambique the health system appeared less cohesive and the level to which REACHOUT QI approaches were embedded were less clear. Strengthening referral pathways and supportive supervision were focus areas for REACHOUT and my impression here is that these factors did not influence the gendered findings uncovered, which mainly focussed on individual choices and outside work opportunities.

Throughout the thesis I utilise several conceptual frameworks. The framework developed following the literature review serves to highlight the complexity of the CHWs interface position and the areas in which gender norms and relations impact through the course of CHW programming influenced by gender theory. This provides a useful framing for thinking through the complex, multidimensional and interlinking nature of gender across the individual, community and health system levels situated within the broader political and social context. The framework was again useful in looking at various health system factors and policies from a gender perspective within Mozambique (chapter five). A potential limitation, however, is that I did not similarly use this framework for the analysis in Ethiopia (chapter six). Instead I chose to analyse these findings through an adapted socio-ecological model. Whilst this too positions the HEW at the interface between the health system and the community, it focuses on the HEWs interactions and relations across the various levels. This framework worked well for exploring how one specific policy or guideline played out, as opposed to several, as in Mozambique. Policies or guidelines feature as one theme under the health system sphere of the conceptual framework in chapter two (figure 7.1). The socio-ecological model (figure 6.3) allows for a more detailed exploration of that singular element or theme. It was therefore appropriate to explore the introduction of a new guideline on mHealth which had nuanced implications across the various relational levels.

7.6 Future work

Gender practice is a reflexive process of social embodiment (Connell, 2012) Implementation of new policies for CHWs therefore will not be a linear process – rather it will entail ongoing, reflexive strategies and processes to support CHWs. Recent REACHOUT work in Kenya, has demonstrated that health workers, particularly at community levels often described feeling excluded from both county and community decision-making structures (McCollum et al., 2018) and in cases where CHWs are given a platform to input into decision-making gendered power relations limit voice and decision-making space (Mafuta et al., 2017, McCollum et al., 2018, Waldman et al., 2018). Power relations have also been shown to be complicated by the indistinct boundary between communities and health systems (Mafuta et al., 2017, Waldman et al., 2018). Minimising gender bias in health systems requires developing mechanisms for

accountability (Sen and Ostlin, 2008), which in turn can help transform health systems to be more gender equitable (Waldman et al., 2018). Currently however, the dearth of literature investigating accountability and gender in health systems strengthening is preventing progress in this area and is a critical research gap that will need to be filled.

Additionally, gender is only one axis of oppression – it intersects with other axes of inequity to create specific positionalities in relation to power (Tolhurst et al., 2012). In this way, inequities are not additive, nor does one inequality 'trump' another. Intersectionality approaches attempt to link individuals' and groups' experiences with broader structures and systems to reveal how power relations are shaped and experienced (Hankivsky, 2012, Sen et al., 2009). In order to fully comprehend the convergence of experiences for CHWs and the structural precursors for these dimensions, comprehensive intersectionality analyses are required. This requires routine data disaggregated by axes of inequity for CHWs to be collected and used. Beyond this, intersectional analysis will require further development of epistemologies and methodologies that take a nuanced approach to power and the fluidity of categories to ground meaning in the lived experiences of individual CHWs (Tolhurst et al., 2012). This type of cross-cutting analysis is essential to examine the health equity implications of different policy options for CHWs and the communities they serve.

Following any implementation of gender sensitive policies for CHWs, there will also be a requirement for the impacts of this to be assessed. This speaks to the importance of developing indicators for gender sensitive policies, which are currently lacking from policies. In the same way my research sought to understand the unintended gendered consequences of implementing an mHealth policy for the female HEW cadre in Ethiopia – there will also be a need to explore the unintended consequences, if any, from implementing new selection, education and employment policies from a gender perspective. For example, following the introduction of modular training in Mozambique – it would be beneficial to assess the impact of this on the number of females in the health workforce, and their experiences of recruitment processes – and consequently, whether this confers any benefit to the health of the populations they serve.

7.7 Conclusion

To date, there has been minimal attention paid to the gendered experiences and needs of CHWs from a health systems policy perspective, though this is changing. Gendered structural determinants, discriminatory norms in society and health system biases limit female and male CHWs in discrete ways, which should be reflected in policy and practice. The time is ripe for the health system to reflect on its own role as a gendered institution and enact policy change to ensure CHW programming is more gender equitable. CHW programmes should respond effectively to the differing needs of the men and women who serve as CHWs – the sector's critical link for the provision of health promotion and disease prevention services, especially in most remote and rural areas. Incorporating gender into existing national CHW policies and programmes entails changes in the structure of the health care system to allow for equal opportunities for women at all levels. This starts with ensuring CHWs are involved in policy development so that their perspective is incorporated at conception. This also needs to be taken through to implementation including gender responsive ways of working and monitoring and evaluation towards gender equity to minimise policy evaporation. It will require ongoing discussion that critically engages with community power dynamics to appropriately support CHWs and build on their embedded position at the interface of communities and the formal health system - recognising and responding to CHW capacity to challenge problematic norms. This will enable more sustainable, equitable and gender-responsive health systems.

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Appendices

Appendix 1 - Systematic review protocol

Phase 1 of the REACHOUT project involved 1) a review of the international literature on factors influencing the performance of CTC providers (150 studies and 46 reviews), 2) six reviews of country level literature on the subject in the REACHOUT countries, and 3) six country level qualitative context analyses that explored a range of CTC provider related issues at multiple levels of the health system. These literature reviews and qualitative studies were conducted during 2013-2014 and included searches in English, Bangla and Portuguese and informed the focused systematic review on gender that was conducted as part of this study in 2017.

The critical interpretive synthesis systematic review conducted for this paper, focused on gender and CTC providers. Four databases were searched: Medline (5th May 2017), Scopus (8th May 2017), CINAHL plus (8th May 2017) and Global Health (8th May 2017). In addition, reference lists of identified papers were combed for other suitable studies alongside citation searching and stakeholder consultation through the *Thematic Working Group on Strengthening and Supporting the Role of Community Health Workers in Health Systems Development* (see http://www.healthsystemsglobal.org/) identified further references. This search took place from January – September 2017. Conceptual saturation was reached, and the quality of the studies was appraised. Studies of highest quality were given the most weighting in the analysis.

Search terms:

	Keywords
#1	(lay OR volunt* OR untrained OR unlicensed OR non+professional* OR non+professional OR nonprofessionals OR nonprofessional OR 'non-professional' OR 'non professionals' OR informal OR 'non formal' OR non+formal OR link OR outreach OR auxiliary OR traditional) n5 (worker OR workers OR visitor OR visitors OR attendant OR attendants OR aide OR aides OR support OR support* OR person* OR person OR helper OR helpers OR carer OR carers OR caregiver OR caregivers OR consultant OR consultants OR assistant OR assistants OR staff OR visit* OR visit OR midwife OR midwives OR provider OR providers OR 'care giver*' OR practitioner OR practitioners)
#2	(community OR communities OR 'community based' OR village OR villages OR frontline) n3 ('health worker' OR 'health workers' OR 'health care worker' OR 'health care workers' OR 'healthcare worker' OR 'healthcare workers' OR distributor OR distributors OR worker OR workers OR provider OR providers)
#3	paraprofessional OR paraprofessionals OR 'paramedical personnel' OR “health promoter” OR “barefoot doctor”
#4	Gender or “gender factors” OR “sociocultural factors” OR “social determinants” OR “gender role” OR “gender influence” OR “gender relations” OR “interpersonal relations” OR “social norms” OR “social values” OR “intersectionality” OR “women’s mobility”
#5	LMIC OR “low n2 income countr*” OR “middle income countr*” OR “developing countr*” OR “global south” OR Africa OR Asia OR “low resource setting”
#6	(Community AND Health AND Worker)
	MeSH terms
#7	(MH“Community Health Workers”)
#8	(MH“gender Identity+”) OR(MH “sex factors”) OR (MH “social norms”) OR (MH“interpersonal relations+”) OR (MH“social class+”) OR (MH“social capital”) OR (MH“social marginalization”) OR (MH“hierarchy, social”) OR (MH“family relations”)

#9	(MH“social attitudes”) OR (MH“gender bias”) OR (MH“attitude of health personel+”) OR (MH“cultural values”) OR (MH“social norms”) OR (MH“social values+”) OR (MH“sex factors”)
#10	(MH“Developing Countries”)
#11	(MH“Developing Countries”) OR (MH“Asia+”) OR (MH“Africa+”) OR (MH“Pacific Islands+”) OR (MH“Low and Middle Income Countries”)
#12	(DE “community health services” OR DE “maternity services” OR DE “public health services” OR DE “traditional health services” OR DE “barefoot doctors” OR DE “medical auxiliaries”)
#13	(((DE “gender relations” OR DE “women’s status”) AND (DE “family life OR DE “social status”)) OR (DE “social mobility” OR DE “vertical mobility”)) OR (DE “social stigma”)
#14	DE “least developed countries” (explode)
Medline	(#1 OR #2 OR #3 OR #7) AND (#4 OR #8) AND (#5 OR #10) = 301 hits
Cinahl	(#1 OR #7) AND (#4 OR #9) AND (#5 OR #11) = 614 hits
Global Health	(#1 OR #12) AND (#4 OR #13) AND (#5 OR #14) = 799 hits
Scopus	(#6) AND (#4) AND (#5) = 134 hits

Delimiters:

- Literature from 2000 onwards (identified as a suitable cut-off from an earlier search on the topic)
- English studies

Inclusion criteria	**Exclusion criteria**
• Original research • Study types include qualitative, quantitative and mixed methods • Studies relating to CTC providers which provide an analysis of how gender of the CTC provider can impact on their role • Studies where the CTC provider fits the definition used for this project: “any health worker carrying out functions related to health care delivery; trained in some way in the context of the intervention and having no formal professional or paraprofessional certificate or degree in tertiary education.” • Studies pertaining to low- and middle-income countries	• Commentaries, narratives and opinion pieces • Systematic or literature reviews • Studies involving CTC providers with professional certifications and tertiary education • Studies pertaining to high income countries

Appendix 2: Interview topic guides, key informant interviews

Topic guide, KII – gender responsive policy

This topic guide presents some example questions that we will ask to individuals with differing job titles and experience in relation to the following research objectives:

- Understand to what extent gender is considered in the development of CHW policy
- Understand current discourse of how gender responsive CHW policy could (better) be incorporated into policies
- Find out, where tools/guidelines are in place, if these policies are correctly implemented, if not what are main challenges to implementation

This document includes IDI guide for:

1. Key informants at a national level
2. Key informants at the international level

1. Introduction – national level:

Thank you for taking the time to speak to me. I would like to understand a little bit more about Community Health Workers (CHWs) and if/how gender roles and relations affect their work and experiences and if so the extent to which this is considered in policy and practice. If you don't want to answer any of the questions in the interview, please let me know and we can move on to something different. If any of the questions are unclear, please tell me and I am happy to ask them in a different way.

Intro questions:

- Occupation:
- Organisation:
- Can you tell me a bit about your experience with CHW programmes or policy development?

Supervision:

- Can you describe CHWs in your country context?
    - Who works best at which roles (by gender)?
    - Why do you think the pattern is like that?
- In your country what is the ratio of male to female CHWs?
    - Why is it like that?
    - *Ethiopia specifically: who was involved in the decision to have an all-female cadre?*
        - *Do you know how this policy came about – probe, why, how, key players?*
    - **Mozambique specifically: Do you know why there is a current target to recruit more female APEs**
        - **Who was involved in setting that target?**
        - **What are the reasons/driving force for that target? What is it about**

gender that is important to the APE programme?

- (If communities select CHWs) Why do you think communities choose male/female CHWs?
  - Probe – intra household dynamics that drive that

- How does this compare to the ratio of male to female supervisors?
  - What do you think are the main reasons for this?
  - What impact do you think this has?
  - Do you see this changing through policy?

- Do you think gender issues impact on delivery of services in your context?
  - Probe: in what ways?
  - Do you think supervisors aware of the importance of gender issues as part of the delivery of services?

- Do you think gender issues impact on CHWs relationship with the health system?
  - Probe: in what ways?
  - Do you think supervisors are aware of the importance of gender for the relationship with the health system?

(New) Policy development

- Can you describe the process of new CHW policy development?
  - Who are the key players involved?
  - Was it intersectoral?
  - Any representation from the gender department/women's groups/movements?
    - If so, are there mechanisms for carrying out intersectoral efforts aimed at improving health?
    - *Kenya specifically* - Has decentralization affected intersectoral cooperation? In what way?
  - To what extent do CHWs or supervisors bring their knowledge into policy development?

- When policy is being developed what information is available?
  e.g. is information available on the sex breakdown of CHWs, including the areas in which men and women work, remuneration levels, representation at decision-making levels, length of employment, etc., at both the national and local levels

- Is responsibility assigned to specific actors in the various sectors?

- **Mozambique specifically: Can you tell me about the revitalized programme for APEs**
  - **In what way do you think conflict impacted the revitalized policy?**
  - **How did gender play out in this?**
  - **Do you think gender was considered whilst the revitalization happened?**

    - **If not – why not? do you think it was a lost opportunity to consider gender?**
    - **If yes, in which ways – probe here**

- Was/Is there any impetus to include gender in policy development?
    - Where is the impetus to include gender coming from? Is anyone bringing it to policy development table?
        - If not, why do you think that is the case?
        - If so, were they always listened to?
        - What has changed in the last 5/10 years?

- What is your feeling on women's influence on local agendas?
    - Has this changed over time?
    - If so, why do you think that is the case?
    - If not, how do you think this could change?
        - What would be needed to bring about this change

- What do you think is needed to develop new gender specific or transformative policy?
    - Probe – is it an attitude change that's needed or more of a structural change?

- From your experience, what is the key thing you could suggest to ensure CHW policy can be more gender specific?

Current guidelines/tools

- How would you describe the current status of gender in CHW policy is globally?

- How would you describe the current status of gender in CHW policy is in your country?
    - Is gender explicitly considered in CHW policy?
        - If so, in what way? – does the policy recognize the need to identify and address differences between women and men with regard to needs, knowledge, opportunities, and compensation?
        - If so, is this policy followed and is it effective?
        - Are you aware of any of the main indicators used relating to this policy?

- From your position/organisation what is the general feeling around CHWs and gender specific policy?
    - – is there much debate or discussion around it?
        - If yes, what is being said?
        - If no, why do you think that is, why is no one championing it? Is there any intersectoral collaboration with the gender departments/ ministries etc.

- In your context do you think CHWs and health systems staff (e.g. supervisors)

routinely receive training to develop awareness of the differing situations and needs of women and men?
    - If not, is there any debate about gender?
    - If yes, can you give any examples?
    - If yes, is this training competency taken into account in supervision and performance evaluation?

- Are you aware of any policies that support equal opportunity for women and men in recruitment, training, and promotion in employment?
    - If so, is this policy followed and is it effective?
    - Are you aware of any of the main indicators used relating to this policy?
- Are there equal opportunities for male and female CHWs to progress their careers?
    - Has an explicit policy been formulated that supports equal opportunity in employment and specifically mentions gender equality?
    - If so, how did this come about? Are there indicators/targets?
    - If not, why do you think this is the case?
    - How do you think this could change?

Implementation:

- Are there any action plans in place to implement existing policy around CHW and gender?
    - For example, something that would include a situation assessment, objectives, and indicators of gender equity?
    - If not, then ones to identify gender differences?
    - If so, how much progress is made?

If there is policy implemented – can you describe how this achieved?
    - What are the main benefits to the health system and health outcomes?
    - Have responsibilities, resources, and monitoring mechanisms been established within this plan?

OR

- If there is policy but it isn't well implemented, why? What are the main challenges to implementing the policy?

OR

- If there is no policy, how likely do you think it is that a policy like this would be introduced, or how likely do you think it could be implemented?

- Is there a HIS that could support HR management?
    - If not, do you think this would be feasible in your context?
    - If yes, how is it used generally
        - Is it used to monitor compliance with the gender equality policy?
        - Can it provide sex-disaggregated information?
        - Is it ever used to support timely decision-making?

- What would be the one thing you think would need to change/ or what needs to keep occurring to ensure effective implementation of gender sensitive policies?

Thank you so much for time. Is there anything else you want to share with me?

1. Introduction – international level:

Thank you for taking the time to speak to me. I would like to understand a little bit more about Community Health Workers (CHWs) and if/how gender roles and relations affect their work and experiences and if so the extent to which this is considered in policy and practice. If you don't want to answer any of the questions in the interview, please let me know and we can move on to something different. If any of the questions are unclear, please tell me and I am happy to ask them in a different way.

Intro questions:

- Occupation:
- Organisation:
- Can you tell me a bit about your experience with CHW programmes or policy development?

Supervision:

- From your experience what do you think is the ratio of male to female CHWs globally?
    - What do you think are the main reasons/drivers for this pattern?
- How does this compare to the ratio of male to female supervisors?
    - What do you think are the main reasons for this?
    - What impact do you think this has?
    - Do you see this changing through policy?

- Do you think that performance varies by gender? Are you aware of any examples?

- Do you think there are equal opportunities for male and female CHWs to progress their careers?
    - Has an explicit sectoral policy been formulated that supports equal opportunity in employment and specifically mentions gender equality?
    - If not, why do you think this is the case?
    - How do you think this could change?

(New) Policy development

- Can you describe the process of new CHW policy development?
    - Who are the key players involved?
    - Is it intersectoral?
    - Any representation from the gender department/women's groups/movements?
        - If so, are there mechanisms for carrying out intersectoral efforts aimed at improving health?

    - To what extent do CHWs or supervisors bring their embedded knowledge into policy development?

- When policy is being developed what information is available?
  E.g. sex breakdown of CHWs, including the areas in which men and women work, remuneration levels, representation at decision-making levels, length of employment, etc., at both the national and local levels?

- Is responsibility assigned to specific actors in the various sectors?

- Was/Is there any impetus to include gender in policy development?
  - Where is the impetus to include gender coming from?
    - If not, why do you think that is the case?
    - If so, were they always listened to?
    - What has changed in the last 5/10 years?

- Has women's influence on local agendas changed?
  - If more, why do you think that is the case?
  - If not, how do you think this could change?
    - What would be needed to bring about this change

- To develop new gender specific or transformative policy is your impression that it's an attitude change that's needed or more of a structural change?

- From your experience, what is the key thing you could suggest to ensure CHW policy can be more gender specific?

Current guidelines/tools

- What do you think the current status of gender in CHW policy is globally?
  - Is gender explicitly considered in international CHW policy?
    - If so, in what way? – does the policy recognize the need to identify and address differences between women and men with regard to needs, knowledge, opportunities, and compensation?
    - Are you aware of any examples of this policy being followed and is it effective?
      - Are you aware of reasons why it may not be followed?
    - Are you aware of any of the main indicators used relating to this policy?

- From your position, what is the general feeling around CHWs and gender specific policy – is there much debate or discussion around it?
  - If yes, what is being said?
  - If no, why do you think that is?
  - Is anyone championing it?
    - If not, why is no one championing it?
  - Is there any intersectoral collaboration with the gender departments/ ministries etc.

- Do you think CHWs and health systems staff (e.g. supervisors) routinely receive training to develop awareness of the differing situations and needs of women and men?
    - If not, is there any debate about gender?
    - If yes, can you give any examples?
    - If yes, is this training competency taken into account in supervision and performance evaluation?

- Do you think there should be policy changes to reflect these training needs?

- Are you aware of any policies in place that supports equal opportunity for women and men in recruitment, training, and promotion in employment?
    - If so, is this policy followed and is it effective?
    - Are you aware of any of the main indicators used relating to this policy?

General Implementation:

- Are you aware of any action plans in place to implement existing policy around CHW and gender? For example, something that would include a situation assessment, objectives, and indicators of gender equity?
    - If not, then ones to identify gender differences?
    - If so, how much progress is made?

- If there is policy implemented – how specifically is this achieved? What are the main benefits to the health system and health outcomes?
    - Have responsibilities, resources, and monitoring mechanisms been established within this plan?

- If there is policy but it isn't well implemented, why? What are the main challenges to implementing the policy?

- If there is no policy, how likely do you think it is that a policy like this would be introduced, or how likely do you think it could be implemented?

- What would be the one thing you think would need to change/ or what needs to keep occurring to ensure effective implementation of gender sensitive policies?

Thank you so much for time. Is there anything else you wish to share with me?

Appendix 3: Interview topic guides in English, Mozambique

In-depth interview guides for APEs in Mozambique

This topic guide presents some example questions that will be asked in relation to the research objectives:

- Understand the motives and drivers for male/female APEs to become a CHW
- Understand distinct motives for attrition by gender
- Understand how better the health system can support men and women to ensure active recruitment and retention of both male and female APEs

These questions will be refined, developed and expanded during training and piloting of data collection methods. Consideration will also be given to the ordering of questioning depending on who the data collection method is being used with. Prior to all data collection participants will be provided with the information sheet and informed consent obtained. If informed consent is not obtained no data collection will take place with that individual.

Introduction:

Thank you for taking the time to speak to me. I would like to understand a little bit more about recruitment of male and female APEs, reasons for leaving and how the health system can better support APEs of both genders. If you don't want to answer any of the questions in the interview, please let me know and we can move on to something different. If any of the questions are unclear, please tell me and I am happy to ask them in a different way.

Introductory questions/ background:

- Age
- Education/ years of school
- Can you describe your household?
    - Who do you live with?
    - What are your duties around the house? /what responsibilities do you have at home?
        - Does anyone help with these duties?

Reasons for becoming an APE

- Have you always lived in this community?
    - If no, where did you live before?
        - Why did you move?
        - How was the community different to this one?
- How long have you been an APE?
- Why did you become an APE?
- What do you think are the main reasons that people become APEs?
    - Do you think these reasons are the same for both men and women?
- What are the main things you like/dislike about your role? Why?
- Have you ever wanted to leave or do anything else?
    - If yes, what is currently stopping you from engaging with these activities?

- How well do you feel supported by the health system?
    - How could they support you better?
    - Would you say the same for both male and female APEs?
    - What do you think they are doing well at?

- Do you feel you are offered the same support as your male/female counterparts?
    - Are there more definite roles between genders?
    - Is the pay grade the same?
    - Probe: Are the reasons different between genders?

Training

- Can you tell me a little about the training that is offered to APEs?

- I understand the training is carried out in a different village – did this have any bearing on your decision to become an APE?
    - Was your spouse supportive of this?
    - Do you think this ever causes problems for male/female APEs?
        - If so, how does it differ between the sexes?
    - What if the training was run in shorter intervals or closer to home, how might this change things?

- Are you offered continuous training?
    - When was the last?
    - What was the subject of training?
    - Was it relevant to what you do?
    - Are there any gender issues relating to the training?
        - If so, how?

- Do you think training offered in the community would be helpful?
    - If not, do you think separate training based on gender would be beneficial at all?

- Are there any changes you would make with regards to training which you feel would improve your role/efficiency – help you do your job better?

Supervision

- How is your supervision conducted?

- Can you describe your relationship with your supervisor?
    - How does your relationship impact your work?

- Is your supervisor male or female?
    - If male, have you ever had a female supervisor?
    - Do you think their gender has any effect on your relationship?

- How may things be different if you had a supervisor of the opposite gender?

- Outside of routine reporting, how do you report to the health system?
  - Do you think this is generally similar both male/female colleagues?

Policy/guidelines

- What about guidelines, do you have clear guidelines around training and supervision?
  - Do they support you as a woman/man specifically?
    - How specifically?
    - How could they improve?
    - How do you think they differ for your colleagues of the opposite sex?
    - Do you think there is any need for differing guidelines for male and female APEs?
  - Is there anything you would like to see in the guidelines to help support you in your day-to-day?

Attrition

- I'd like to ask about why people leave their roles – from your experience or in your opinion what do you think are the main reasons people stop working as an APE?

- What could the health system could do to change this?
  - Or do you think there are more personal reasons people leave – i.e. family commitments?

- Do you think there are different reasons for males leaving than for females?
  - If required - can you expand on this?

Thank you so much for time. Is there anything else you want to share with me?

In-depth interview guides for Supervisors in Mozambique

Introduction:
Thank you for taking the time to speak to me. I would like to understand a little bit more about recruitment of male and female APEs, reasons for leaving and how the health system can better support APEs of both genders. If you don't want to answer any of the questions in the interview, please let me know and we can move on to something different. If any of the questions are unclear, please tell me and I am happy to ask them in a different way.

Introductory questions/ background:

- Age
- Education/ years of school
- Years as a health worker
- Category (professional)

Reasons for becoming a supervisor

- How long have you been a supervisor?
    - How did you get to your current position?

- Do you have other roles besides being a supervisor?
    - How much time do you have to dedicate to your role as a supervisor?

- What are the main things you like/dislike about your role as supervisor?

Selection of APE

- Can you describe how APEs in your community were selected?
    - What do you think are reasons people want to do this role?
    - Do you think these reasons are the same for both men and women?
    - Were there female candidates? Were they considered?
    - Do you think men and women are given equal opportunity to be selected as an APE?

- Once in the role, do you feel the health systems offers the same support to male and female APEs?
    - Are there more definite roles between genders?
    - Is the pay grade the same?
    - Probe: Are the reasons different between genders?

- What else could the health system do to support APEs?
    - Would you say the same for both male and female APEs?

Training

- Were you briefed about your role or offered any training when you became a supervisor?

- If so, what did it consist of?
- Is it continuous?

Can you tell me a little about the training that is offered to APEs?

- Do you conduct any training on joining?
- Do you conduct continuous training?
- What kind of training is offered? Is it relevant to their roles?

- I understand the initial training is carried out in a different village – do you think this has any bearing on people's decision to become an APE?
  - Do you think this ever causes problems for male or female APEs specifically?
    - If so, how does it differ between the sexes?
  - How do you think the health system might address this? E.g. training in community?

- Are there any changes you would make with regards to training that you feel would improve APEs efficiency/performance?

Supervision

- How is supervision conducted?
- How many APEs do you currently supervise?
- Can you describe your relationship with APEs you supervise?
  - How does your relationship impact your work?

- Does being male or female effect your relationship with your APEs?
  - If so, why do you think that is?
  - Do you find any differences between the genders in work-ethic, performance or health system reporting?
  - Are there any cultural issues or ethnic barriers related to gender?

- If male: Are there many female supervisors in your team?
  - If no, why do you think that is?
  - If yes, do you think they have a different relationship with male/female APEs? Why?

Policy/guidelines

- Are you aware of any guidelines on supervision?
  - Are they gender specific?
    - If so, please expand
    - If not, do you think they should be? Probe how/why?
    - How could they improve?
  - Is there anything you would like to see in the guidelines to help support you

in your day-to-day as a supervisor?

Attrition

- I'd like to ask about why people leave their roles – from your experience or in your opinion, what do you think are the main reasons APEs stop working?

- Do you think there is anything the health system could do to change this?
    - Or do you think there are more personal reasons people leave – i.e. family commitments?

- Do you think there are different reasons for males leaving than for females?
    - If required - can you expand on this?

Thank you so much for time. Is there anything else you want to share with me?

In-depth interview guides for Community leaders in Mozambique

Thank you for taking the time to speak to me. I would like to understand a little bit more about recruitment of male and female APEs, reasons for leaving and how the health system can better support APEs of both genders. If any of the questions are unclear, please tell me and I am happy to ask them in a different way. You are free to leave at any time.

Reasons for becoming an APE

- What do you think are the main reasons that people become APEs?
    - Do you think these reasons are the same for both men and women?
    - Can you describe how the APE was selected in this community?
        - Why were they selected?
        - Probe: do you prefer a male or female and why?
        - If male: were there female candidates?
        - Are women and men given equal opportunity for selection?

- Do you think the health system supports APEs?
    - How do you think they could support them better?
- Do you feel the same level of support is offered to male and female APEs?
- Is there any difference in performance of APE by gender?

Training

- I understand the initial training on becoming an APE is carried out in a different village – do you think this has any bearing on people's decision to become an APE?
    - Do you think this ever causes problems for male or female APEs specifically?
        - If so, how does it differ between the sexes?

    - Do you think there is enough of a career opportunity for APE?

Attrition

- I'd like to ask about why people leave their roles – from your experience, what do you think are the main reasons APEs stop working?
- Do you think there is anything the health system could do to change this?
- Do you think there are different reasons for males leaving than for females?
    - Please explain

Thank you so much for time. Is there anything else you want to share with me?

Focus Group Discussions with APEs in Mozambique

This topic guide presents some example questions that will be asked in relation to the research objectives:

- Understand the motives and drivers for male/female APEs to become a CHW
- Understand distinct motives for attrition by gender
- Understand how better the health system can support men and women to ensure active recruitment and retention of both male and female APEs

Introduction:

Thank you for taking the time to speak to me. I would like to understand a little bit more about recruitment of male and female APEs, reasons for leaving and how the health system can better support male/female APEs. If any of the questions are unclear, please tell me and I am happy to ask them in a different way. You are free to leave at any time.

Reasons for becoming an APE

- What do you think are the main reasons that people become APEs?
    - Do you think these reasons are the same for both men and women?
- What are the main things you like/dislike about your role?
- Have you ever wanted to leave or do anything else?
    - If yes, what is currently stopping you from engaging with these activities?
    - Probe here?
- How well do you feel supported by the health system?
    - What are they doing well/ How could they support you better?
    - Would you say the same for both male and female APEs?

- Do you feel you are offered the same support as your male/female counterparts?

Training

Can you tell me a little about the training that is offered to APEs?

- I understand the training is not in the community – did this have any bearing on your decision to become an APE?
    - Do you think this ever causes problems for male/female APEs?
    - Why?
- Do you think training offered in the community would be helpful?
    - What about separate training by gender?
- Are there any changes you would make with regards to training which you feel would help you do your job better?

Supervision

- Can you describe your relationship with your supervisor?
- Is your supervisor male or female?
    - Do you think their gender has any effect on your relationship?

- How may things be different if you had a supervisor of the opposite gender?

Attrition

- I'd like to ask about why people leave their roles – from your experience or in your opinion what do you think are the main reasons people stop working as an APE?
  - Probe here

- Do you think there is anything the health system could do to change this?
- Do you think there are different reasons for males leaving than for females?

Thank you so much for time. Is there anything else you want to share with me?

Appendix 4: Interview topic guides in English, Ethiopia

Topic Guide - In-depth interview guides for HEWs in Ethiopia

This topic guide presents some example questions that will be asked in relation to the research objectives:

- Understand if female HEWs are empowered via mobile technology?
- Explore the unintended consequences of mHealth technology related to gender – positive & negative?
- Understand if and how mobile technology makes HEWs more accountable to the Health System?

Introduction:

Thank you for taking the time to speak to me. I would like to understand a little bit more about the mobile phone programme that has recently been implemented for HEWs in your district and how this has impacted your work and life outside of work. If you don't want to answer any of the questions in the interview, please let me know and we can move on to something different. If any of the questions are unclear, please tell me and I am happy to ask them in a different way.

Introductory questions/ background:

- Age:
- Education/ years of school:
- Can you describe your household?
    - Who do you live with? (Husband? Children? Parents?)
    - What are your duties around the house? /what responsibilities do you have at home?
        - Does anyone help with these duties?

- Can you tell me a bit about your community?
    - Have you always lived in this community?
    - If no, where did you live before?
        - Why did you move?
        - How was the community different to this one?

- Can you tell me about how you became a HEW?
    - How long have you been a HEW?
    - Why did you become a HEW?
    - Have you ever wanted to leave or do anything else?
        - If yes, what is currently stopping you from engaging with these activities?

Logistics of the phone use

- How have you found the mobile phones you have been issued?
    - Have you found it easy to use?

        - If so in which ways?
        - Do you think it's successful so far?
    - Have there been any technical issues or problems with using it?
        - If so, how?
        - Has this had any impact – i.e. damaged relationship with the health system or the community?

- Can you tell me how the airtime is managed?
    - Have there been any issues with this process?
    - If so, do you think there is any impact of this?

- How do you charge the phone?
    - Is it convenient to do?
    - Have you ever been without charge when visiting a client, or has it ever impacted your work? e.g. delayed reporting to health system

Access to phones

- Do you or anyone else in your household have a personal phone?
    - If so who – yours/ husband/ mother etc?
    - Did you have access to a mobile phone prior to this?
        - If so, was it yours?
            - If not, whose was it specifically?
        - Do you use it differently to the phone used for work purposes?
        - Does anyone else use your phone?
            - If so, who?

    - Generally, do households in your community have access to phones?
        - If so, who holds the phone?
        - Do your (female) clients have access to phones?
        - If so, are they personal or household phones i.e. owned by someone else in the family or community?

Impact on work

- How do you feel having this resource available to you?
- Has the phone impacted your work at all?
    - Do you use it for SMS/calls/reporting?
    - Has the technology enabled you to be more/less accurate in your work?
        - If so, please expand
    - Has your reporting to the health system changed from using the phone?
        - Reporting more/less often than before?
        - Any other methods of reporting (for TB and MNCH)?
- Has it impacted your relationship with your supervisor?
    - If so, can you expand? In what ways has it changed and how do you think the mobile is responsible for this change?
    - Is your supervisor male or female?
        - If male, have you always had a male supervisor?

- Do you like having a male?
- What do you think it would be like having a female supervisor? (Would it change anything for you?)

- Has the phone has impacted on your relationship with your community?
    - Probe how/why
- Has the phone has impacted on your relationship with your colleagues, for example other health extension workers, supervisors, or anyone else at woreda level?
    - Probe how/why
    - When there are meetings (at woreda level) do you actively participate?
        - If no, why not, would you consider it?
        - Who mainly does participate?
        - If yes, did you always participate?
        - Has the phone changed your level of engagement/participation?
        - Have you noticed a change in the general engagement of HEWs since the phone programme came into use?

Unintended consequences

- How do you feel having this as a resource in your personal life?
- How do you use the phone outside of your work duties?
    - Probe – apps/ social media/ text messages/ camera/ calls to friends etc.
        - If so, probe exactly in which ways and how often?
        - Do you meet with friends, other women in your community/other communities?
        - If so, please can you elaborate?

- How has this impacted your personal life?
    - For example, as women, do you feel it has changed your place in the community (social status)?
    - Have you experienced any negative consequences from having the phone?
        - If yes, can you tell me more about that?
            - E.g. Have you ever felt someone may be jealous because you now have this phone for your work?
            - If so, probe further, have you ever felt threatened or in danger due to the phone?
        - If not, why not?

Thank you so much for time. Is there anything else you want to share with me?

Topic guide - In-depth interview guides for Supervisors in Ethiopia

Introduction- Supervisors:

Thank you for taking the time to speak to me. I would like to understand a little bit more about the mobile phone programme that has recently been implemented for HEWs in your district and how this has impacted your work and life outside of work. If you don't want to answer any of the questions in the interview, please let me know and we can move on to something different. If any of the questions are unclear, please tell me and I am happy to ask them in a different way.

Reasons for becoming a supervisor

- Are you from this community?
    - Can you tell me a little about the community?

- How long have you been a supervisor?
- Did you take part in mobile phone training?
    - Is ongoing training offered if needed?

- What are the main things you like/dislike about your role?

Logistics of the phone use

- How have the HEWs adapted to using the mobile technology in your opinion?
    - Probe for positives/negatives
    - Have there been any technical issues or problems with using it?
        - If so, how?
        - Has this had any impact on relationships with the health system or the community?
    - Do you think it is successful so far?

- Do you know how the airtime is managed?
    - Does this run smoothly?
        - Have there been any issues with this process?
        - If so, do you think there is any impact of this?

Impact on work

- How do you think the phone has impacted on the work of the HEWs?
- Can you tell me about their attitudes to the phone and to work?
    - Have you noticed this has changed at all?
    - In what way?
- Have you found the reporting to have changed at all?
    - In what way – accuracy? Timeliness?
        - Why do you think this is the case?
        - Is this the only way reporting occurs (for TB and MNCH)?

    - Has it had any impact on your relationship with your supervisees?

        - Do you communicate using the phone? Arranging meetings e.g. catchment area meetings
        - If so, can you expand? In what ways has it changed and how do you think the mobile is responsible for this change?
    - How do you think the phone has impacted on your supervisees relationships with other health extension workers, or anyone else at woreda level?
        - If so, can you expand?
        - When there are meetings held (at woreda level) do you actively participate?
            - Probe here.
            - Who mainly does participate?
        - Do your supervisees actively participate?
            - If no, why not?
            - If yes, did they always participate?
            - Has the phone changed their level of engagement/participation?
            - Have you noticed a change in the general engagement of HEWs at meetings since the phone programme came into use?

- Do you think your gender has an impact on your relationship with the HEWs you supervise?
    - If male: How do you think it might be different with a female supervisor?
        - Probe - why
    - If female: How do you think it might be different with a male supervisor?
        - Probe - why

Unintended consequences

- Do HEWs use the phones outside of work?
    - What for? Probe – apps/ social media/ text messages/ camera/ calls to friends etc.
        - Probe exactly in which ways and how often?
    - If so, do you think there are any positive consequences of this?
        - E.g. do you think it may have changed HEWs place in the community (social status)?
        - Or their place within the health system, e.g. do they have more of a voice in meetings (at woreda level)? With other colleagues etc?
    - Have you ever heard of any negative consequences of the mobile phone use?
        - At woreda level?
        - At community level?
        - At household level?
        - If so, probe further – exactly what
            - Jealously, crime etc.
        - If not, why not?

Thank you so much for time. Is there anything else you want to share with me?

Topic Guide - Focus Group Discussions with Health Extension Workers

This topic guide presents some example questions that will be asked in relation to the research objectives:

- Understand if female HEWs are empowered via mobile technology?
- Explore the unintended consequences of MHealth technology related to gender – positive & negative?
- Understand if and how mobile technology makes HEWs more accountable to the Health System?

Introduction:

Thank you for taking the time to speak to me. I would like to understand a little bit more about the mobile phone programme that has recently been implemented for HEWs in your district and how this has impacted your work and life outside of work. If any of the questions are unclear, please tell me and I am happy to ask them in a different way. You are free to leave at any time.

Introductory questions/ background:

- How long have you been a HEW?
- Why did you become a HEW?
- Have you ever wanted to leave or do anything else?
    - If yes, what is currently stopping you from engaging with these activities?

Logistics of the phone use

- How have you found the mobile phones you have been issued?
    - Have you found it easy to use?
        - If so in which ways?
        - Do you think it's successful so far?
    - Have there been any problems with using it?
        - If so, how?
        - Has this had any impact on your relationship with the health system or the community?

- How do you manage the airtime?
    - Have there been any issues with this process?
    - If so, do you think there is any impact of this?

- How do you charge the phone?
    - Is it convenient to do?
    - Have you ever been without charge when visiting a client, or has it ever impacted your work? (e.g. delayed reporting to health system)

Access to phones

- Do households in your communities have access to phones?

        - If so, who holds the phone?
        - Do your (female) clients have access to phones?
        - If so, are they personal or household phones i.e. owned by someone else in the family or community?

Impact on work

- How do you feel having this resource available to you?
- Has the phone impacted your work?
    - How do you use it outside of inputting client data?
      E.g. calls/SMS/ arranging meetings?
    - Has the technology enabled you to be more/less accurate in your work?
        - If so, please expand
        - If not, why?

- How often do you report back to the health system using the phone?
    - Is this more/less often than before?
    - Is this the only way you report now (for TB and MNCH)?

- Has it had any impact on your relationship with you supervisors?
    - If so, can you expand? In what ways has it changed and how do you think the mobile is responsible for this change?
    - Do any of you have female supervisors?
        - If yes, do you think this is different from those with male supervisors?
            - If so, how?
        - If male, have you always had a male supervisor?
        - Do you think having a female supervisor would change anything for you in your work?

- Has the phone had any impact on your relationship with your communities?
    - If so, can you expand?
    - Has the phone had any impact on your relationship with your colleagues at woreda level?
        - If so, can you expand?
        - When there are meetings (at woreda level) do you actively participate?
            - If **no**, why not, would you consider it?
            - Who mainly does participate?

            - If **yes**, did you always participate?
            - Has the phone changed your level of engagement/participation?
            - How about other HEWs at the meeting?

Unintended consequences

- Do you use the phone outside of your work duties?
    - How do you feel having this as a resource in your personal life?

- What do you use it for?
    - Probe – apps/ social media/ text messages/ camera/ calls to friends etc.
        - If so, probe exactly in which ways and how often?
        - Do you meet with friends, other women in your community/other communities?
        - If so, please can you elaborate?

- How do you feel this has impacted on your personal lives?
    - In either a positive or negative way?
    - For example, as women, do you feel it has changed your place in the community (social status)?
    - Have you experienced anything negative from having this resource?
        - If yes, can you explain further? E.g. Have you ever felt jealousy because of this new resource?
        - If so, probe further, have you ever felt threatened or in danger due to the phone?
        - If not, why not?

Thank you so much for time. Is there anything else you want to share with me?

Topic Guide Focus Group Discussions with Supervisors

This topic guide presents some example questions that will be asked in relation to the research objectives:

- Understand if female HEWs are empowered via mobile technology?
- Explore the unintended consequences of mHealth technology related to gender – positive & negative?
- Understand if and how mobile technology makes HEWs more accountable to the Health System?

Introduction – Supervisors:

Thank you for taking the time to speak to me. I would like to understand a little bit more about the mobile phone programme that has recently been implemented for HEWs in your district and how this has impacted your work and life outside of work. If you don't want to answer any of the questions in the interview, please let me know and we can move on to something different. If any of the questions are unclear, please tell me and I am happy to ask them in a different way.

Logistics of the phone use

- How do you think the HEWs have adapted to using the mobile technology?
    - Do you think it is successful so far?
    - Have there been any problems with using it?
        - If so, how?
        - Has this had any impact on relationships with the health system or the community?

- Do you know how the airtime is managed?
    - Have there been any issues with this process?
    - If so, do you think there is any impact of this?

Impact on work

- What effect has the phone had on the work of the HEWs?
    - Has it impacted your work life?
- What is their attitude to the phone/work?
    - Do you think this resource has changed their attitudes to work at all?
- Have you found the reporting to have changed at all?
    - In what way – accuracy? Timeliness?
        - Why do you think this is the case?
        - Is this the only way reporting occurs (for TB and MNCH)?

- Has it had any impact on your relationship with your supervisees?
        - If so, can you expand?
        - In what ways has it changed and how do you think the mobile is responsible for this change?

- From your impression, do you think the phone had any impact on your supervisees relationships with other health extension workers, or anyone else at woreda level?
    - If so, can you expand?
    - When there are meetings held (at woreda level) do you actively participate?
        - Probe here.
        - Who mainly does participate?
    - Do your supervisees actively participate?
        - If no, why not?
        - If yes, did they always participate?
        - Has the phone changed their level of engagement/participation?
        - Have you noticed a change in the general engagement of HEWs at meetings since the phone programme came into use?

- If male group: do you think your gender has an impact on your relationship with the HEWs you supervise?
    - Probe, how?
    - Why do you think that is?
    - Do you think it might be different with a female supervisor?
        - How, why?

- If mixed group: do you think HEWs have a preference for a male/female supervisor?
    - Why do you think that is?

Unintended consequences

- Are you aware of the HEWs using the phones for personal use (outside of work)?
    - If so for what?
    - Probe – apps/ social media/ text messages/ camera/ calls to friends etc.
        - If so, probe exactly in which ways and how often?
    - If so, do you think there are any positive consequences of this?
        - E.g. Do you think it may have changed HEWs place in the community (social status)?
        - Or their place within the health system?
            - E.g. do they have more/less of a voice in meetings (at woreda level)? With other colleagues etc?
    - Have you ever heard of any negative consequences of the mobile phone use?
        - If so, probe further
        - If not, why not?

Thank you so much for time. Is there anything else you want to share with me?

Topic Guide Focus Group Discussions with Community Leaders

Introduction – Community leaders

Thank you for taking the time to speak to me. I would like to understand a little bit more about the mobile phone programme that has recently been implemented for HEWs in your district and how this has their role and status in society. If you don't want to answer any of the questions in the interview, please let me know and we can move on to something different. If any of the questions are unclear, please tell me and I am happy to ask them in a different way.

Perception of HEWs

Firstly, can you tell me a bit about how women become HEWs in your *kebele*?

- Probe: selected from community, self-selecting?

Do you think it is seen as a desirable job?

- Probes- why?

Can you describe the perception of HEWs in this community?

- Probes: Do you think that everyone views them in this way, or could men/ /women/children perceive them differently? If so, in what ways – please describe?
- How does this compare to other women in the community?
- How does this compare to men in community?
- Are HEWs valued in community?
    - Probe - Why?

Are HEWs supported in their work?

- by community members
- by health system
- Or in other ways?

Impact on work

Are you aware of the mobile phones that HEWs in your *kebele* are now using in their work? (If not briefly explain project and ask can ask the questions hypothetically)

What impact do you think this is having on their work, if any?

- Probe on community perception of the work they are doing and how this may have changed since using the phones

Are you aware of any changes in workload for the HEWs?

- If yes- when did it change? what is the reason?
- Please can you describe how it has changed?

Are you aware of the communities' impressions of the phones for HEWs?

- Probe: is their role seen as more/less important/unchanged

Have HEWs links to the health system changed in any way?

- If so, probe – How? Due to what?

Thinking about their place within the community (and health system), to what extent to HEWs participate in *Kebele* meetings?

- How does their involvement compare to other women in the community?
- Probe: has this changed since the phones came into use?

What is your perception of career advancement opportunities for HEWs?

- Do you think the phones have any impact on this?
- If not, why not?
- If so in what ways? Stronger links to health system, motivation etc?

Unintended consequences

- Are you aware of the HEWs using the phones in their personal life/ outside of work?
  - If so for what?
  - Probe – apps/ social media/ text messages/ camera/ calls to friends etc.
    - If so, probe exactly in which ways and how often?
  - Do you think there are any positive or negative consequences of having the phones outside of their distinct roles?
    - If so, probe further
    - If not, why not?

Thank you so much for time. Is there anything else you want to share with me?

Appendix 5: Coding framework, key informant interviews

Context
- Cultural factors
- Educational factors
- Historical factors
- Political factors
- Religious factors
- Changing times
- Fragmentation of CHW programme

Discourse
- Attitudes
    - Lack of will
    - Resistant to change

Empowerment

Gender issues facing CHWs
- Acceptability
- Attrition
- Employment patterns
- Performance
- Remuneration
- Selection
    - Motivation to become CHW
    - Overcoming selection barriers
- Working conditions
    - Career development
    - Mobility
    - Safety
    - Tasks
    - Employment rights
- Training and supervision

Logistics
- Gender sensitive tools (lack of)
- Implementation challenges
- Gender indicators
- Need practical guidance
- On the ground solutions

Policy Development
- South-South learning
- Policies and HMIS for HRH
- Policy development actors
    - Fragmentation of actors/poor coordination

    - Power
- Policy development process
    - Input from community/community committees
    - Policy devolution

Appendix 6: Coding framework, Mozambique

APE interface position

Call for action

Career progression opinions

Community attitudes
- Acceptance
- Attitude to family planning
- Gender norms

Characteristics of APE

Difficulties
- For men
- In community
- Exploitation
- Overcoming difficulties
- Subsidy

Enjoyable parts of job

Family Approval
- Financial dependency

How the health system can support APEs
- Airtime
- Health post provision
- Medicine supply
- Miscellaneous
- Recognition
- Subsidies
- Training
- Transport provision

Impact of War
- Migration

Other income generation opportunities

Performance

Quality Improvement

Reasons for attrition

- Age
- Family disapproval
- Follow husband
- Geographic location
- Male provider role
- Not suited to role
- Subsidy/earning potential
- Study

Reasons for joining

- Extrinsic motivators
    - Good opportunity
    - Personal gain
- Intrinsic motivations

Reasons to stay

- Obligation
- Limited opportunities

Selection process

- Selection by sex

Supervision

- Supervisor characteristics
- Difficulties
- Logistics
- Lack of supervision
- Relationships

Training

- Family support
- Negatives
- Positives
- Suggestions for improvement

Ways of working

What the health system does well

Appendix 7: Coding framework, Ethiopia

Advantages of phone
- Benefit to community
    - Satisfaction of community members
- Hardware/ health system benefits
    - Accountability
    - Alerts/reminders
    - Communication
    - Complete data
    - Follow up
    - Improved data quality
    - Timeliness of data
- Software benefits
    - Improved skills
    - Improved motivation
    - Morale/pride
    - Participation in meetings
    - Personification of phone
    - Social status
        - Recognition from community
        - Recognition from other catchments
- Performance
- Personal benefit

Career opportunities for HEWs

Collaborative approach

Community context
- Acceptance
- Changing norms
    - Health seeking behaviour
- Gender norms and values
    - Household work burden
    - Status of women
- Health issues
- Livelihoods
- Phone ownership
- Rural v urban
- Cultural norms

Disadvantages of phone
- Hardware/ practicalities
    - Airtime
        - Cost
    - Appropriation of technology

    - Electricity
    - Kebele leaders misinformed
    - Lack of handover
    - Misuse of technology
    - Mobile interface
    - Network
    - Security (of data)
    - Skill gap since training
    - Theft
    - Work burden
- Software
    - Care
    - Fear of loss/theft
    - Skill gap
    - Tensions
    - Fear of discontinuation
    - Expectation from community members

Job dissatisfaction
- Juggling multiple roles
- Policies
    - Lack of upgrade opportunities
    - Lack of transfers
    - Poor incentives
    - Respect
    - Work burden
- Shortage of HEWs

Job satisfaction
- Paid employment
- Good job for women
- Improved health of community
- Intrinsic motivation

Phone viewed as own property

Political Context

Recruitment and selection
- Didn’t have information on role when joined

Relationships with supervisors
- Perceived benefits of female supervisors
- Perceived benefits of male supervisors
- Solutions/problem solving approach

Scale-up benefits